Techniques of Retail Merchandising

WINGATE and SCHALLER

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TECHNIQUES OF RETAIL MERCHANDISING

GANDHI PEACE FOUNDATION
BANGALORE CENTRE,
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PRENTICE-HALL RETAILING SERIES

Charles M. Edwards, Jr., Editor

TECHNIQUES OF

Retail Merchandising

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EDITOR'S FOREWORD

GANDHI PEACE FOUNDATION
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Shortly after the close of World War I, a new approach was applied to the problems of operating a retail store. This more scientific approach required, first, that systematic research be undertaken to learn the facts about the relative effectiveness of various retailing policies and practices. It required, second, that the findings be organized and presented in an accessible, usable manner so that they might aid retailers to increase the efficiency of store procedures. Through this orderly investigation, classification, and evaluation of experience, the proponents of scientific methods in retailing have accomplished much to raise retailing to the level of a profession.

Foremost among the pioneers of the scientific approach to retailing problems was the late Dr. Norris A. Brisco, first Dean of the New York University School of Retailing. In 1920, with Dean Brisco's guidance and inspiration, the members of the faculty of the School of Retailing began a systematic study and evaluation of retailing practices in order to discover and to record—in articles and in books—the principles of successful store operation. Subsequently, they were joined in their endeavors by other educators and by business executives.

Throughout this long and eventful period, the members of the faculty of the School of Retailing have received the indispensable and the unfailing cooperation of many of the country's leading merchants. They have benefited especially by the whole-hearted encouragement and support of a select company of merchants in New York City, Brooklyn, and Newark, N. J., who pioneered in the establishment of the School of Retailing and who have continued to serve on its Advisory Committee.

One of the most valuable products of this educator-retailer cooperation has been the Retailing Series, a collection of separate, but related, studies of the various phases of retail distribution. The numerous books that compose the series cover all the major divisions and subdivisions of retail-store operation, including buying and merchandising, advertising and sales promotion, service and personnel, and accounting and control. Each represents a comprehensive definition and appraisal of modern retailing policies and practices within a specified area.

In the years that have intervened since the publication of *Elements of Retail Merchandising,* a book written in 1938 by the late Dr. Norris A. Brisco, Dean of the New York University School of Retailing, and Dr. John W. Wingate, then Professor of Merchandising in the New York University School of Retailing, numerous changes have occurred in retailing practices. Of necessity, retailers have made many modifications in their operating procedures. They have refined, improved, and changed old systems. They have embraced new techniques. Above all else, they have recognized the urgent need for the training of retail-store employees—both executive and non-executive—in scientific merchandising methods. As a result, they have encouraged and aided the development of retail training programs in schools and colleges. This latter development is one of the most significant trends in a generation.

Because so many changes have taken place in retail merchandising practices in the last decade, a book with a new approach is required. It is for this reason that Drs. John W. Wingate and Elmer O. Schaller have written *Techniques of Retail Merchandising.* Of the many people who might have written this book, few are so well prepared as Drs. Wingate and Schaller. Both have had long and rich experience as practitioners and as teachers of retailing. They have served as advisors to many stores. They have taught thousands of college students, many of whom, in turn, have become successful practitioners and teachers. Without doubt, their book is the best that has ever appeared on the subject.

Charles M. Edwards, Jr.
Dean, New York University School of Retailing
Editor, The Retailing Series

PREFACE

Techniques of Retail Merchandising is designed primarily as a text for students of Retail Merchandising and of Retail Merchandising Control. It is a companion book to *Buying for Retail Stores,** which covers the functions of a buyer for resale but does not treat the collection, analysis, and planning of merchandising figures. The latter topics are presented in this book.

Without sacrificing completeness, every effort has been made to make the discussion easy to understand, even for the reader whose mathematics are rusty. Footnotes and appendices have been employed to free the text of the more technical matter.

This book replaces two former books in the Prentice-Hall Retailing Series: *Retail Merchandise Control,* published in 1933, and *Elements of Retail Merchandising,* published in 1938. Both these books have been drawn upon for material, but the earlier matter has been completely revised and much that is new has been added.

Parts I, II, and III, covering Profits, Pricing, and Inventories, provide the subject matter for a one-term beginning course in Retail Merchandising; Part IV, covering Planning and Control, together with selected material in the Appendices, provides the subject matter for an advanced course in Merchandising Control. Some instructors may prefer to postpone Chapter 4,

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* J. W. Wingate and N. A. Brisco, *Buying for Retail Stores,* rev. ed. New York: Prentice-Hall, Inc., 1946.

"How to Analyze the Profit and Loss Statement," until the beginning of the advanced course. Also, in elementary courses, Chapter 3 may be omitted, since it elaborates on Chapter 2.

Since merchandising is a subject best learned by doing, extensive problems and case work must supplement the text. Such material is to be found in *Problems in Retail Merchandising.**

The authors have attempted to take a realistic approach to the subject of retail merchandising by stressing the importance of profit and loss statements. The impact on profits of rising markdowns, increasing expenses, and declining sales volume is carefully explained; in fact, explanation of the fundamental relationships among profit factors is deliberately repeated several times throughout the book for emphasis.

Many years of teaching retail merchandising to students intent upon a retailing career have convinced the authors that a mastery of the subject matter presented here puts an invaluable tool into the hands of the trainee, the young assistant buyer, or the operator of an independent establishment. Virtually every subject treated is important to the small merchant as well as to the large one.

Fundamentally, the success of a store depends upon the astuteness with which a merchandiser can adjust prices and quantities of offerings to customer demand in such a way as to earn a profit. That, in a nutshell, is what this book is about.

John W. Wingate
Elmer O. Schaller

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* J. W. Wingate, E. O. Schaller, and I. Goldenthal, *Problems in Retail Merchandising,* 3rd ed. New York: Prentice-Hall, Inc., 1944.

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PART ONE

Part One introduces the subject of Retail Merchandising, presenting the importance for all merchants of a knowledge of the techniques involved. The elements of the profit and loss statement are explained with emphasis on the effect of its various elements on the profit goal.

PROFITS

1

Merchandising—The Basis for Successful Store Operation

Merchandising has been defined in many different ways, but a satisfactory definition is "the planning involved in marketing the right merchandise, at the right place, at the right time, in the right quantities, and at the right price." [1] Retail merchandising, then, is the planning done by retailers to insure an assortment of merchandise balanced to customer demand and offering a profit potential.

The five "rights." The five "rights" in the definition of merchandising need some explanation: the *right merchandise* is merchandise that customers will readily buy because it fills their needs and wants. Its character can be determined in advance by a careful study of past sales, of current market offerings, and of the "lives" customers are leading, since interests and modes of living mold customer demand for merchandise.

The *right place* for the retailer is the most satisfactory location in his store from the viewpoint of his customers, but he may have to locate branch stores or additional units to continue to offer goods in the right place.

The *right time* is the day, week, or season when customers want goods of the type in question. Every day is the right time for staples; the Christmas season is the best time for toys; the week before Hallowe'en is the best time for favors for that occasion; and a rainy day is the best time for rubbers and umbrellas. Many fads are in demand only for a very few weeks, and to "get in and out of them" at the right time is the secret for success in handling them.

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[1] Committee on Definitions, American Marketing Association, *Journal of Marketing,* October, 1948.

The *right quantities* are those quantities of the right goods that the customer clientele can absorb during the right time, without necessitating excessive markdowns. They are also the quantities that provide efficient use of the merchandise investment. For example, 5,000 units of an article might sell in a year with no loss, but the right quantity to buy at any one time might be only a month's supply, in order not to tie up funds unnecessarily.

The *right price* is a price that will accomplish two ends: (1) move the right merchandise promptly and (2) assure a profit for the store after costs and expenses of operation are paid.

If the merchandise is not "right," customers will not buy no matter how attractive the price and place, and no matter how suitable the time and quantity. The only exception occurs in periods or localities of scarcity when there is little competition and when customers have to take what they can get or go without.

If the place is not "right," desirable goods will not be exposed to a maximum number of customers and the quantities actually sold will be much less than the potential.

If the timing is not "right," sales will be restricted and expenses will be high. Many fashion items have failed to become producers of sales because they have been promoted lavishly before the public was ready for them, and other items have failed to move because they arrived in stock after the wave of customer demand had subsided.

If the quantities bought by the store are too great in view of potential demand, markdowns will have to be taken to dispose of goods. If quantities are too small, volume will be lost with little reduction in the expenses of store operation.

If the price is not "right," sales volume will again be retarded or the markup will fail to cover all the costs and expenses involved in storekeeping. There are psychological points at which the public responds most fully to merchandise offerings. Too low a price makes customers suspicious of value; too high a figure prices them out of the market.

Every merchant must perform the merchandising function adequately in order to survive. This statement is true regardless of the size or the location of the store or of the type of merchandise it sells. The peanut vendor with sales of a few dollars a day is subject to the same kind of penalties for failure to perform his merchandising functions properly as are the tremendously large grocery chains and mail-order houses.

Performance of the merchandising function. The job of maintaining merchandise in the five right relationships is the central function of the merchant himself in the small store and of the merchandise division in the large one. While the small merchant must direct personal selling, must advertise, must provide a suitable space in which to operate, and must record transactions, he commonly allocates these duties to subordinates. He seldom delegates, however, the planning necessary to balance his stocks to customer demand so that they will yield a profit.

In the large store, the merchandising function is assumed by the merchandise division, which is set off from the store management, publicity, and control divisions. This division is often headed by the store president. Where there is a separate merchandise manager, he is generally the second in authority in the store.

This merchandise division does more than merchandising—that is, it does not limit its activities to planning. It also is responsible for buying and usually for selling as well. Buyers or department managers are appointed for each major line of goods: they buy, they direct sales, and they *merchandise*—that is, they plan their activities in view of customer demand and profit possibilities. Divisional merchandise managers are often put over groups of buyers. The divisional merchandise managers supervise the buyers under them and coordinate their activities so that all departments will reflect the basic character that top management wishes to develop. Thus, much of the time of the merchandise managers is given to *merchandising,* with the execution of the plans left largely to the buyers. There is a tendency, nevertheless, to develop buyers who can merchandise their own departments, allowing fewer merchandise managers who can specialize in co-ordination since a minimum of supervision will be required.

In chain organizations, the division of responsibility is somewhat different. Buying and selling are separated: central buyers procure the right goods, at the right time, in the right quantities, and at the right price; distributors allot this merchandise to the right *places*—that is, to each of the units in the proper quantities for each—and at the right time; and store managers assume the function of presentation and sale. The planning is done by merchandise planners, sometimes called merchandise managers, each of whom is attached to one or more buyers. They plan purchase requirements for the chain as a whole and also the stock requirements of each individual unit. In a large chain, there may be a merchandise planner who devotes all his time to the over-all needs of the chain with district merchandise managers to take care of the needs of the individual stores. Under their supervision, there may be "paper" planners to allot a portion of each style number received to each unit.

Qualities for merchandising. Even though the merchandiser of the chain is often a specialist in planning, the merchandise manager of the departmentized store has other responsibilities as well. Accordingly, the qualities needed in a merchandise manager are many. A recent survey by the authors determined the qualities of the successful merchandise manager that appear in the accompanying tabulations. A picked group of forty merchandise managers and store presidents active in merchandising were asked to indicate the five qualities each deemed the most important in a merchandise manager.

The numbers in the lists indicate the number of respondents who checked each factor as one of the five most important. Since there were forty respondents in all, thirty votes for leadership indicate that three-fourths of the respondents voted for this quality.

Qualities of a Successful Merchandise Manager of Fashion Merchandise

	NO. OF VOTES
ABILITY to direct and stimulate buyers—leadership	30
to analyze and use merchandising figures	23
to make good judgments	22
to promote sales	21
to operate without constant and detailed direction from top management	16
to develop and create new ideas in merchandise	15
to co-ordinate the activities of buyers	9
to delegate authority	5
KNOWLEDGE of customer demand	25
of merchandise	13
of markets, including broad contacts	5
PERSONALITY—Aggressive	13

Qualities of a Successful Merchandise Manager of Staple Merchandise

	NO. OF VOTES
ABILITY to direct and stimulate buyers—leadership	29
to analyze and use merchandising figures	26
to make good judgments	21
to operate without constant and detailed direction from top management	20
to promote sales	17
to co-ordinate the activities of buyers	7
to delegate authority	7
to develop and create new ideas in merchandise	6
KNOWLEDGE of customer demand	18
of merchandise	18
of markets	5
PERSONALITY—Aggressive	13

An analysis of the responses indicates that, for the merchandising of both fashion and staple merchandise, the outstanding quality needed is *leadership*—the ability to direct and stimulate the buyers under the merchandise manager. For fashion-goods merchandising, six other factors are also of major importance: knowledge of customer demand; ability to analyze and use merchandising figures; good judgment; ability to promote sales; initiative, the ability to operate without constant and detailed direction from top management; and creativeness, ability to develop new ideas in merchandise.

For staple merchandising, the six factors following leadership are: ability to analyze and use merchandising figures; good judgment; initiative; knowledge of both (1) customer demand and (2) merchandise; and ability to promote sales.

Leadership is a quality essential in any administrator and is outside the scope of this book on techniques. *Ability to analyze and use merchandising figures,* however, which ranks second for staple merchandising and third for fashion merchandising, *is* the subject matter of this book. Likewise, the merchandise manager's *knowledge of customer demand* and his *ability to promote sales* grow out of his analysis and interpretation of figure facts. *Good judgment,* also a quality that ranks high for both fashion and staple merchandising, is judgment based on facts, not on hunches, and these facts are largely determinable from an analysis of sales, stocks, customer wants, markups, and price trends.

The survey, as indicated by the tabulations, shows that a large majority of respondents feel that the good merchandise manager of fashion goods must be bold, flexible, and ready to try out new ideas. A greater degree of conservatism is indicated in the case of the merchandiser of staples, but even for staples the majority of those answering this question prefer a person more interested in shaping the future than in conserving the past.

It may be concluded, then, that a person who has (1) the quality of leadership and who can (2) base sound judgments on

Type of Person Preferred for Merchandising

(As Reported by a Group of Merchandise Managers)

FOR FASHION MERCHANDISE	FOR STAPLE MERCHANDISE	
2	13	Conservative person who prefers to adhere to proved methods
32	19	Person ready to try out new ideas and to take chances
4	3	Combination preferred

facts about operations that are revealed by figure analysis has the makings of a good merchandising executive. But he must develop in addition (3) the ability both to foresee and to mold the future. He must possess the intuitive power to sense probable future customer acceptance of merchandise and of price and also of customer response to promotional appeals. Figures provide a guide, an essential tool, but they must be interpreted by a mind closely in tune with customer psychology.

The buyer as a merchandiser. Merchandising is not performed only by merchandise managers but also by buyers. In fact, the tendency is in the direction of allowing buyers to merchandise their own departments under the general supervision of merchandise managers or of merchants themselves. A study [2] of the qualities of the ideal buyer, made some years ago, rated the factors as follows:

1. Leadership
2. An aptitude in following changes in customer demand
3. Cooperativeness
4. Comprehension of merchandising figures and their interpretation
5. Knowledge of merchandise qualities and values.

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[2] "Wanted: An Ideal Buyer," by C. O. Dudley, *Journal of Retailing,* January, 1937, p. 101, and reported in *Buying for Retail Stores,* rev. ed., Prentice-Hall, Inc., 1946, pp. 31–32.

In both the new study of the merchandise manager and the former study of the buyer, *leadership, knowledge of customer demand,* and *comprehension of figures* rank among the first five qualities. For the buyer, knowledge of merchandise itself is more important than in the case of the merchandise manager. The merchandise manager is more dependent upon good judgment. Cooperativeness in the buyer seems to be replaced by initiative in the merchandise manager. It is interesting to note that neither the buyer nor the merchandiser have to be endowed with special talents and skills such as the ability to draw or to write, the ability to act, or to create with their hands. They have to be, instead, intelligent, well-rounded people, tremendously interested in customer response to merchandise offerings.

Importance of figure relationships. When we realize that the qualities for both the buyer and merchandiser are similar, it becomes doubly clear that a thorough technical training in the computation and interpretation of figure facts is a prime requisite for the would-be merchandiser of tomorrow.

The beginner starting a study of merchandising is often surprised by the extent to which business judgments are dependent upon figures. It is true that merchandisers do much of their planning in terms of dresses, shoes, or toasters, but they must express their thinking in specific quantities, and these involve numbers. Again, the goal of the merchandising operation is twofold: serving the public well and making a profit for the retail store. Profits can be figured only in dollars, not in merchandise. Every potential buyer and merchandise manager must understand the interrelation of the many factors that enter into profits, so that he may intelligently adjust them. The study of retail merchandising logically begins with the profit and loss statement and with its analysis.

Since profits are chiefly the results of markup, inventories, sales volume, and expense, it is logical to continue the study of retail merchandising with a careful investigation of markup and an explanation of how it is interrelated with sales and expenses in yielding a profit. The problem of price is perhaps the central one, for retail prices, if properly set, have a dynamic power to move goods. Frequently a small difference in price makes a large difference in both sales volume and profits.

The next phase of the study is *inventories,* since inventories provide the stock from which sales materialize and since the valuation of the inventory has a decided effect on profits.

Since profits depend upon sales volume as well as upon markup and inventories, the study of retail merchandising must include the analysis of sales possibilities and the planning and control of stocks and purchases required in view of the demand. Attention must also be given to stockkeeping to insure (1) that maximum sales are realized by properly replenishing fast-selling stock and promptly clearing slow-selling stock, and (2) that stock shortages are reduced to a minimum.

Profits cannot be realized by a consideration of markup, inventories, and sales volume possibilities only. Expenses concomitant upon various sales and markup goals must be estimated. Thus, attention must be given to the nature of store expenses and to their budgeting and control, in order that the final profit result may be satisfactory.

Merchandising approaching a science. Of all phases of retailing activity, the merchandising function comes closest to a science today. The analysis of customer demand through a study of sales records and the balancing of stocks to sales expectancies involve the tools of mathematics, statistics, and economic research.

Sales results can be explained in terms of causes. This makes it possible, in turn, to establish the cause that will produce a desired sales result.

Why study merchandising? Although merchandising is a function performed by merchandise managers, buyers, and small-store merchants, the study of the subject should not be limited to these groups or to those that aspire to join these groups. The success of other specialized workers in a store organization will depend to a considerable extent upon their comprehension of the merchandising function, so that they will be able to adjust their activities to the needs of the merchandisers. For example, the personnel executives must employ and help train people for merchandising positions; the advertising executives must work hand-in-glove with the buyers and must understand their objectives; the fashionist, likewise, must have an appreciation of the profit-mindedness of the buyer if she is to succeed; and the controller must see the merchandise realities behind the figures and symbols if he is to exert an influence in policy-making and planning. All members of the store team must make their contribution to profit, and to do this they must be well-versed in basic merchandising techniques.

Profit-mindedness is an essential ingredient for success in retailing. Merchants are in business to serve the community, it is true, but they are also in business to make a profit. Buyers are judged partly on the sales volume they achieve, but probably even more on the profit they earn for their employers. Without profits, no expansion and growth is possible. The store that simply tries to break even usually shows a loss and is on the way to failure. Profits are a measure of the degree of success with which the public is served, and they provide the motivation to drive merchandisers to provide even better service. We believe that under a philosophy of free and independent enterprise human nature is spurred to maximum achievement. The striving for profits continues to be a major constructive force, so long as the competitors obey the rules of fair play.

REVIEW QUESTIONS

1. What is a sound definition of merchandising? Of retail merchandising?
2. Explain each of the five "rights" involved in successful merchandising.
3. Who performs the merchandising function in a small store? In a large store? In a chain?
4. Distinguish among the duties of a store merchandise manager, a buyer, and a chain's merchandise planner.
5. What are five major qualities desirable for a merchandiser of fashion goods? For a merchandiser of staple goods?

6. What type of person is preferred by general merchandise managers to perform the merchandising function for fashion goods? For staple goods?
7. What are the five major qualities desirable for a store buyer?
8. Why is a comprehension of figure relationships important for a person who is dealing in the buying and selling of merchandise?
9. What is a logical order for the study of retail merchandising?
10. Why is merchandising the phase of retailing to which the scientific method can best be applied?
11. Why should anyone other than store buyers and merchandise managers study merchandising?
12. Why is profit-mindedness a constructive force?

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Basic Profit Elements

Profit Computation

A few decades ago many merchants had no accurate method of determining their profit or loss at the end of each year's operations. They took in cash as sales or collections were made, and they paid out cash for merchandise, fixtures, store expenses, and personal expenses. If they had more cash on hand at the end of the year than at the beginning, or if their personal drawings had been substantial, they figured that they had earned a profit.

With the introduction of the Federal income tax system in 1913, merchants were compelled to keep books, to value their stocks of merchandise at least once a year, and to calculate profits according to a standardized formula. These requirements have the following advantages for the merchant:

1. They allow an accurate determination of whether or not his financial interest in the business has increased or decreased and thus indicate how the business is heading.

2. They provide an analytical statement that helps answer the question, "Why were more profits not realized?" This allows a change in policy, management, or methods before it is too late.

3. They make it possible for stores to exchange data and for each store to determine by comparison its points of strength and weakness.

While income tax regulations require the preparation of a profit and loss statement only once a year, many merchants prepare semiannual statements in order to provide a closer control over operations, and many big stores prepare monthly statements. If a store is departmentized, profits are calculated for each department, as well as for the store as a whole.

Nature of profit. Profit may be defined as the gain a business realizes over a period, measured in terms of money. The gain realized from trading operations alone, that is, from buying and selling goods, is called *operating profit.* This is the difference between the sales, on the one hand, and the cost of merchandise sold and the expenses of store operation, on the other. Operating profit is distinguished from *net profit* in that the term net profit includes operating profit plus *net other income,* which is income from other sources than selling, such as interest and dividends from outside investments. See Figure 1.

Elements of profit. Operating profit is the result of the interplay of four basic factors: (1) sales volume, (2) cost of merchandise sold, (3) expense of doing business, and (4) miscellaneous sources of income available to the merchant. For example:

		Per Cent of Net Sales
(1) Net sales	$100,000	100
(2) Cost of Merchandise sold	60,000	60
Gross margin	$ 40,000	40
(3) Operating expenses	32,000	32
Operating profit	$ 8,000	8
(4) Net other income	2,000	2
Net profit	$ 10,000	10%

The arrangement of these factors on the Federal income tax form for individuals, as distinct from corporations and partnerships, appears in Figure 2. In this illustration, in line 1, *Total receipts* is the same as *Net sales;* line 9, *Net cost of goods sold* is equivalent to *Cost of merchandise sold;* line 10, *Gross profit* is *Gross margin;* line 20, *Total* equals *Operating expenses* above; and line 22, *Net profit* is the same as *Operating profit* above, since the individual shows other income he has earned in other parts of his tax statement.

(1) *Net sales.* The sales of $100,000 in the example are *net.* To derive this figure, the value of goods returned[1] by customers is subtracted from gross sales. Sales taxes and charges made

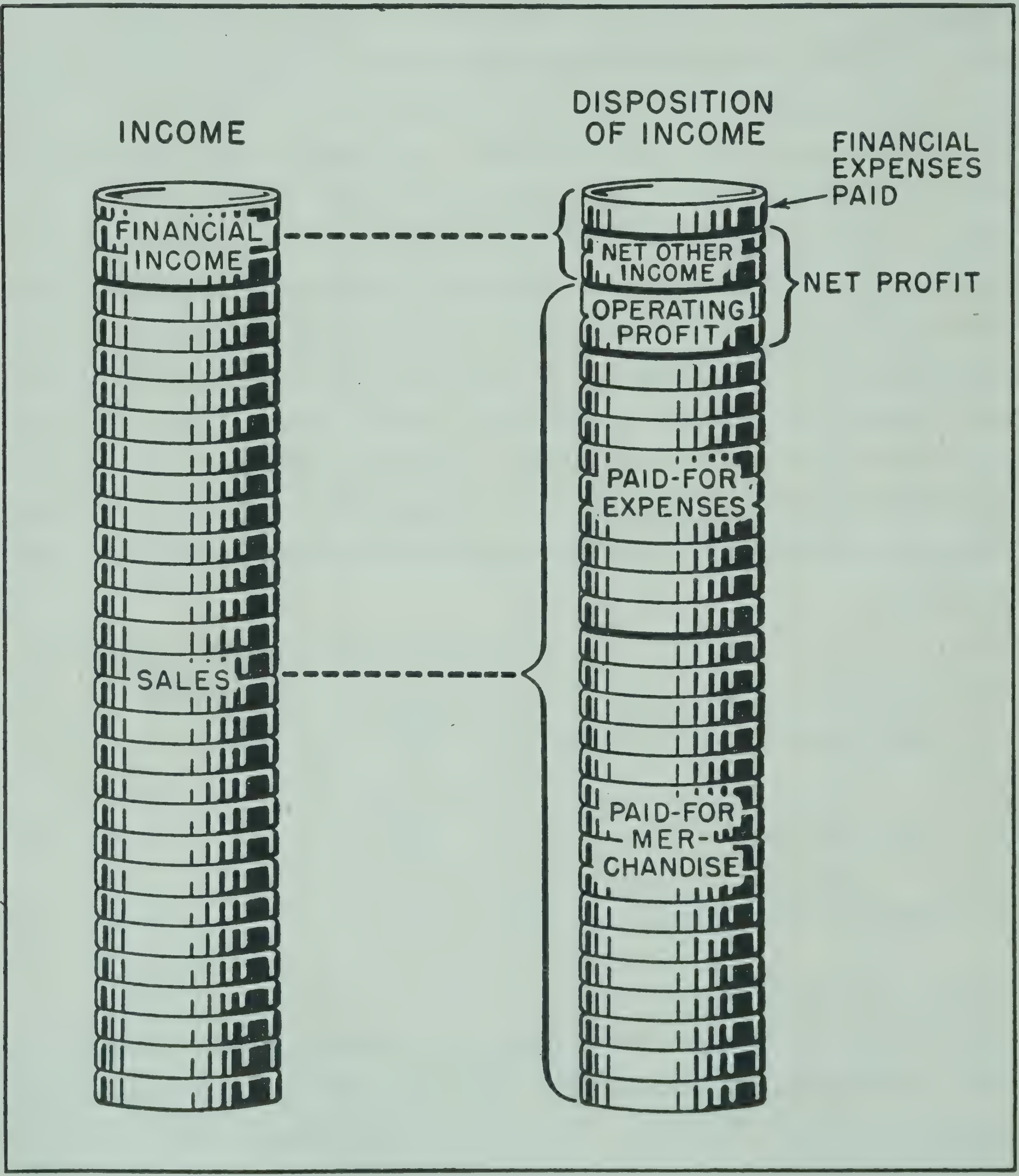

FIGURE 1. Sources and Disposition of Store Income.

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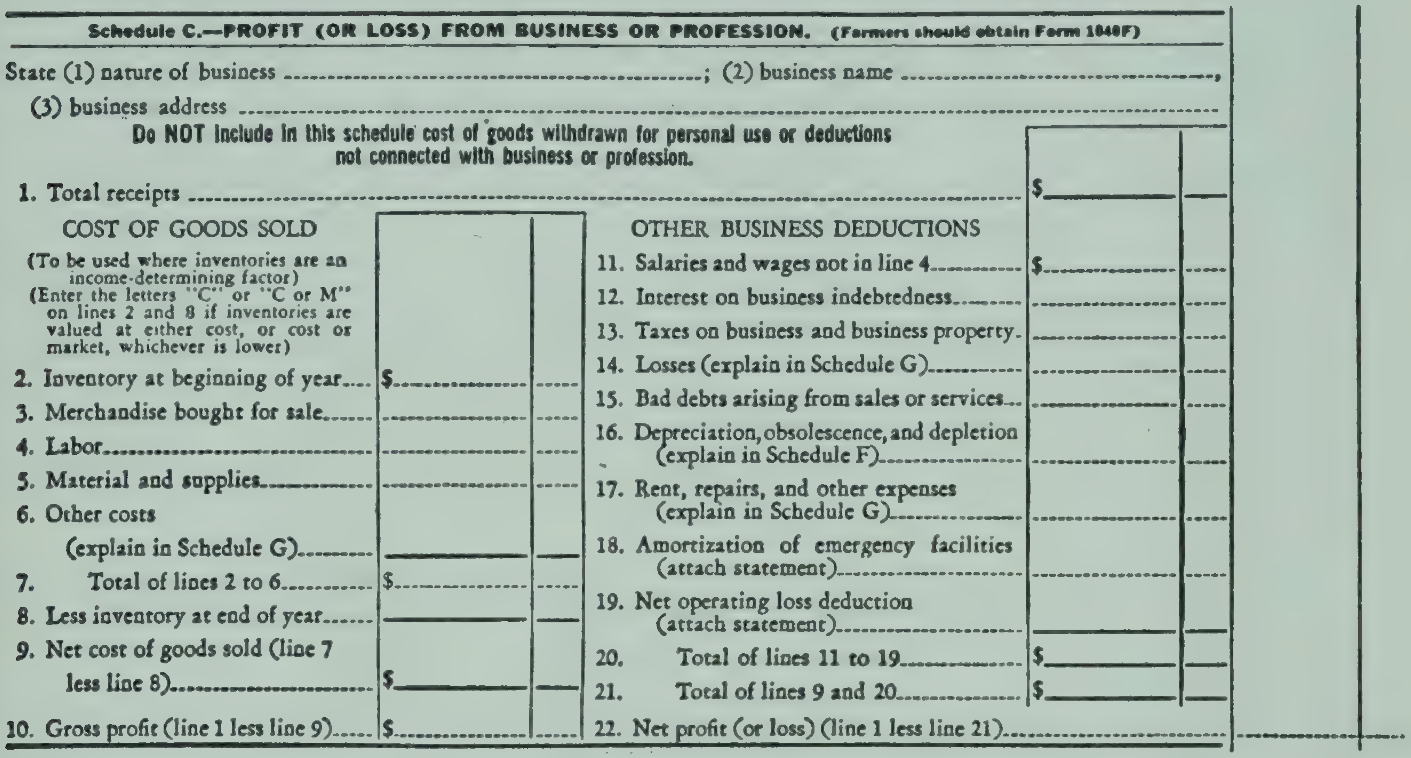
[1] See Chapter 3 for the treatment of allowances that also are subtracted from gross sales.

to customers for services and supplies other than merchandise, such as alterations, are normally excluded from the sales figure. In collecting taxes, retailers act as agents for governmental bodies. Services sold customers normally reduce the cost of merchandise sold and sales of supplies would reduce expenses.



Schedule C.—PROFIT (OR LOSS) FROM BUSINESS OR PROFESSION. (Farmers should obtain Form 1040F)

State (1) nature of business ....; (2) business name ....,
(3) business address ....

Do NOT include in this schedule cost of goods withdrawn for personal use or deductions not connected with business or profession.

1. Total receipts .... $

COST OF GOODS SOLD
(To be used where inventories are an income-determining factor)
(Enter the letters "C" or "C or M" on lines 2 and 8 if inventories are valued at either cost, or cost or market, whichever is lower)

2. Inventory at beginning of year.... $
3. Merchandise bought for sale......
4. Labor............
5. Material and supplies............
6. Other costs (explain in Schedule G)............
7. Total of lines 2 to 6............ $
8. Less inventory at end of year......
9. Net cost of goods sold (line 7 less line 8)............ $
10. Gross profit (line 1 less line 9)..... $

OTHER BUSINESS DEDUCTIONS

11. Salaries and wages not in line 4............ $
12. Interest on business indebtedness............
13. Taxes on business and business property.
14. Losses (explain in Schedule G)............
15. Bad debts arising from sales or services...
16. Depreciation, obsolescence, and depletion (explain in Schedule F)............
17. Rent, repairs, and other expenses (explain in Schedule G)............
18. Amortization of emergency facilities (attach statement)............
19. Net operating loss deduction (attach statement)............
20. Total of lines 11 to 19............ $
21. Total of lines 9 and 20............ $
22. Net profit (or loss) (line 1 less line 21)............

FIGURE 2. Federal Income Tax Profit Schedule.

(2) *Cost of merchandise sold.* This is the cost to the store of the merchandise that has been sold during the period covered by the operating statement. Included in this is the transportation cost incurred in having the goods sent from the suppliers.

It is not customary to keep an independent record of the cost of each item sold for purposes of calculating the cost of merchandise sold for a period. The figure is arrived at in the following manner:

Beginning inventory at cost	$20,000
Net purchases at cost	59,000
Transportation charges	1,000
Total merchandise handled at cost	80,000
Closing inventory at cost	20,100
Gross cost of merchandise sold	59,900
Net alteration costs	100
Total cost of merchandise sold[2]	$60,000

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[2] Adjustment at this point may be made for "cash discounts earned." A discussion of the handling of this factor will be deferred until Chapter 3.

The *beginning inventory* of $20,000 is the same as the closing inventory of the preceding period. The *net purchases* are gross purchases less returns to vendors and less allowances and rebates received from vendors. Trade and quantity discounts, if any, are subtracted in arriving at gross purchases. Cash discounts may be also subtracted at this point, but the standard practice is to charge the purchase account with the face amount of the bill (except for trade and quantity discounts), and to treat the cash discount either as a reduction in the cost of merchandise sold or as *other income.*[3]

The transportation charges on incoming purchases represent the amounts paid by the store for postage, freight, express, and cartage on merchandise received from vendors or returned to them. It also includes insurance paid by the store on goods in transit.

The sum of beginning inventory, purchases, and transportation charges equals the *total merchandise handled at cost* during the period. At the end of the accounting period, the cost value of the inventory on hand is subtracted from this total in order to find the gross cost of the merchandise sold.

Net alteration costs. In furniture and clothing stores that finish or alter merchandise to meet the needs of the customers at the time of sale, there is an upward adjustment in the gross cost of merchandise sold. The *net alteration cost* is the difference between the cost the store incurs in performing the alterations and the amount, if any, paid by customers for this service. Retailers nearly always incur a loss on alterations and this loss becomes an addition to the cost of merchandise sold. Some stores treat this as an operating expense, but it is better treated as a *cost,* since a change in the form of merchandise is involved. Alterations are technically a part of the costs of production performed by the retailer rather than by the manufacturer.

Gross margin. This is the difference between the *net sales* and the total cost of merchandise sold. It represents the portion of the sales available for expenses and profits after the goods sold have been paid for.

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[3] See page 36, Chapter 3.

Gross margin is commonly called *gross profit,* a term that is misleading. Frequently, all of the margin is required to pay expenses and nothing is left for profit. Normally, profit is less than a fifth of the gross margin.

(3) *Operating expenses.* The expenses of operating a business are of two major types: (1) expenditures or cash outlays for services provided the business during the accounting period such as pay roll, advertising, and rent, and (2) imputed expenses or charges made against the business even though they are not actually paid out during the period. Thus, depreciation on furniture and fixtures is an expense even though the expenditure for these assets was made some years ago. Likewise, interest may be charged on the investment in a business or department even though no interest is actually paid out to a creditor. Again, an owner may charge himself a salary as an expense, even though he does not draw it out of the business.

If an owner does not draw a salary or at least allow for one in his expenses, his calculated profit really represents a salary for his personal efforts as manager plus a profit for the risk and responsibility he assumed in organizing his own business. Many small merchants estimate what they could earn working for another merchant in a similar capacity, and include this amount in *expenses.* This is done in order to determine whether the business is paying them more than a reasonable salary for their managerial services and in order to compare the expenses of the proprietorship fairly with those of corporations, in which owners engaged actively in the business do draw salaries. When this is done, the amount charged as expense must be included in the merchants' *other income,* in order to pay taxes on total earnings. The government is not interested in distinguishing between merchants' wages and their purely business profits.

If all of the earnings of a merchant exactly equal his *wages,* he would show no actual *operating profit.* If the outlook were for no improvement in circumstances, he might be wise to sell his store and to accept employment elsewhere. Thus, he would eliminate the risks of being in business for himself without curtailing his income. It is true, of course, that by nature many merchants prefer to be their own bosses, even though they could earn as much or more by working for someone else.

Operating profit, as already made clear, is the difference between the gross margin and the operating expenses. It is the profit from *operations* or trading in merchandising as distinct from the profit from any other source. This is the profit figure of interest to the hired buyer or merchandiser who has no control over the outside investments of a business.

(4) *Net other income. Other income* or *nontrading income* refers to income from sources other than the sale of merchandise. Such sources include interest and dividends received, carrying charges collected on instalment accounts, and profit derived from the sale of securities. Some stores include under this heading cash discounts earned on purchases and income from leased departments.

There are some *deductions from other income.* There are disbursements or losses that are not true operating expenses, such as expenses incurred in investing surplus funds and losses in the sale of securities and real estate. The difference between gross other income and deductions from other income is called *net other income* and is added to *operating profit* to find *net profit.*

Net profit is technically defined as the final income available for proprietary accounts, either before or after deduction of Federal and state income taxes, as specifically indicated.[4] For example, the net profit, computed on page 15, of $10,000 is the net income before taxes. If the allowance for income taxes is $3,000, the net profit after taxes is $7,000. This latter amount is available for distribution to the owners of the business, or for reinvestment in the business. Frequently, the net profit has been reinvested in merchandise or other assets even before the end of a period in which its amount is calculated.

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[4] Definitions Committee, American Marketing Association, *Journal of Marketing,* October, 1948.

Trend in net profit. The trend in net profits over a period of years is of vital interest to the merchant. In the first year or two in the life of a new store, it is normal to show little profit or even a small loss. As sales volume increases, it is usually possible to maintain the original relationship between sales and cost of merchandise sold. Thus, gross margin generally increases as fast as do the sales. Expenses usually increase at a slower rate because some, such as rent, are fixed. Thus, the margin available for profit usually widens as a new store moves from infancy into youth and maturity. The critical period in most stores is the first few years of infancy. Should a merchant find that his store continues to lose money after the first few years, a careful search for cause must be made. It may prove wise to liquidate the business if it is clear that the location is bad or that fixed expenses are excessive.

Percentage Comparisons

Net sales, as the major source of income, are logically the basis upon which most other figure facts are expressed. Thus, if sales are $100,000 and expenses $32,000, the expense percentage is 32 per cent. For comparison purposes, this ratio is even more significant than the dollar figures themselves. It allows a comparison of expenses with those of other stores doing a greater or smaller volume, and it allows a comparison with former expenses in the same store. The important fact for next year's planning is not that expenses were $32,000 but that they were 32 per cent of sales. If sales next year are $120,000, there would be no occasion to try to hold expenses at $32,000, but there would be cause for concern if they exceed 32 per cent of $120,000 or $38,400.[5]

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[5] In normal times, expenses should not increase 20 per cent when sales increase 20 per cent, due to the existence of many fixed expenses. Thus, an expense increase of $6,400 to accompany a $20,000 increase in sales would be more than a normal expectancy.

Again, the expense percentage allows a comparison with the gross margin obtained. Obviously the gross margin obtained month by month must average more than the anticipated expense rate if the store is to make a profit. Goods that must, over the year, produce a dollar margin of at least $32,000 are not all bought at once. The pricing of goods must be guided by the minimum rate of margin required in order to cover expenses and costs, rather than by the dollar margin needed in the aggregate.

In comparing sales of one year or period with the next, the sales volume of the previous year or of a base year is taken as 100 per cent. Thus, if sales last year were $100,000 and this year $90,000, this year's sales would be expressed as 10 per cent *less* than last year or 90 per cent of last year. It would be confusing to express the $10,000 decline in sales as $\frac{10{,}000}{90{,}000}$ or 11 per cent of this year's sales.

Sometimes, a base year is used to compare sales change. Thus, sales in 1939 (selected as the base) may have been $50,000; in 1940, $55,000; and in 1947, $100,000. The 1939 sales then become 100 per cent, the 1940 sales $\frac{55{,}000}{50{,}000}$ or 110 per cent, and the 1947 sales $\frac{100{,}000}{50{,}000}$ or 200 per cent. Expressed differently, sales in 1940 are 10 per cent above the base and in 1947, 100 per cent above the base.

This expression of sales change in terms of percentage presents some problems in arithmetic. Thus, a store may announce sales for the year just ending of $1,200,000, as an increase of 20 per cent. To determine the dollar increase in sales, it is not possible to take 20 per cent of $1,200,000, but rather to let 100 per cent equal the previous year's sales:

Then 120 per cent equals this year's sales, which are $1,200,000.
$120\% = \$1{,}200{,}000$
$100\% = \frac{\$1{,}200{,}000}{120\%} = \$1{,}000{,}000 =$ last year's sales.
$\$1{,}200{,}000 - \$1{,}000{,}000 = \$200{,}000$, the increase in sales.

Similarly, this year's sales of $500,000 may be announced as 250 per cent of the base year (1939) and last year's sales as 200 per cent of the same base. The increase over last year may then be computed as follows:

$$250\% \text{ of base} = \$500{,}000$$

$$\text{Base} = \frac{\$500{,}000}{250\%} = \$200{,}000$$

$$250\% - 200\% = 50\%, \text{ the increase in sales in terms of the base.}$$

$$50\% \text{ of } \$200{,}000 = \$100{,}000, \text{ the increase in sales over last year.}$$

REVIEW QUESTIONS

1. What advantages did merchants gain from the enactment of Federal income tax laws?
2. What is profit? Distinguish between operating profit and net profit.
3. What are the four basic profit factors?
4. Define *net sales.*
5. How is the *cost of merchandise sold* arrived at? Explain by means of an example.
6. What is meant by *net alteration costs*?
7. Explain gross margin. What is a commonly used synonym?
8. What are the two major types of operating expenses?
9. Why should a salary for the merchant be included in operating expenses?
10. What is *other income* and what are the deductions from it?
11. Why does the ratio of profits tend to increase as a store moves from infancy to maturity?
12. Why are percentage comparisons often more important than the figures themselves?
13. What figure is taken as the base for most figure comparisons? Why?
14. Explain by means of an example how to find last year's sales when this year's sales and the percentage of increase are known.
15. Explain by means of an example how to determine the change in sales from one year to the next when sales are expressed as an index with a fixed base and when this year's sales are known.

3

How to Figure Profits

The last chapter presented a skeleton outline of profit calculation in order to provide an over-all view. The purpose of this chapter is to expand the discussion in order to consider everyday problems arising in figuring profits.

Nature of the Sales Figure

Gross sales. The gross sales of a store or department represent the sum of the prices charged customers for goods purchased by them. These customers are mostly ultimate consumers but they may be other dealers. If goods are sold at a discount to customers or employees, the gross-sale figure is the reduced price, not the full price. For example, during a month employees may purchase goods retailed at $1,000 at a 10 per cent discount. The amount included in gross sales is $900, not $1,000.

While the above is the standard retail practice, some stores do regard gross sales as the original value before discounts, treating the discounts as additions to expense or as deductions from "other income." The weight of logic seems to be on the side of treating sales as the amount charged customers or employees rather than as a higher amount that conceivably might have been charged.[1]

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[1] When discounts to customers and employees are treated as expenses, the net-sales figure, the gross-margin figure, and the expense figure are all increased by

Returns. Returns from customers represent cancellations of sales. Merchandise that has previously been credited to gross sales is returned to stock, and the customer gets her money back or a credit to her account. Returns made during a period are properly deducted from gross sales. If a customer exchanges merchandise for goods of different value, the goods brought back may be treated as a return and the new goods as a new addition to gross sales. Even-exchanges, however, in which a customer returns one article for another of the same value are usually not included in either gross sales or returns.

Some stores treat occasional trade-ins in the same way as returns from customers. Thus, if a customer buys a refrigerator for $300 and is allowed $50 on her old refrigerator, gross sales are recorded as $300 and returns as $50. If the trade-in cannot be resold for $50, a markdown is taken to the actual resale price, just as any other return may require a reduction in price before sale. In other stores, where trade-ins are frequent, they are sometimes handled like merchandise purchases.

Allowances. In addition to returns, allowances to customers must be deducted from gross sales to find net sales. An allowance represents a reduction in price *after* the sale has taken place. It is similar to a markdown taken after the goods are sold rather than before. For example, a customer may have bought for $10 a blouse that faded. She may complain to the store and be granted a cash refund or a credit of $4. This is the amount of the allowance. Where a perpetual dollar inventory is kept, it is necessary actually to take a markdown every time an allowance is granted a customer, in order to keep the stock record correct. An allowance, then, usually requires two entries: (1) subtraction of the allowance, as well as returns, from gross sales and (2) inclusion of the allowance in the markdowns.

The returns and allowance percentage. Although the net sales figure is the usual basis for comparisons, returns from cus-

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the amount of the discount. The operating profit figure remains the same but is a smaller percentage of the larger sales.

tomers and allowances to customers are regularly expressed as a percentage of gross sales rather than net sales. Thus, if gross sales are $110,000 and returns plus allowances are $10,000, the resultant net sales are $100,000, and the returns and allowance percentage is 9.09 per cent, rather than 10 per cent. This is the logical comparison since $10,000 worth returned is not a part of the $100,000 worth retained by customers but rather of the gross sales of $110,000, the amount originally purchased.

With returns and allowances based on gross sales, the analyst is sometimes faced with the problem of finding the returns and allowances in dollars when the percentage figure is known. Thus, net sales may be $81,000 and returns and allowances 10 per cent. To find gross sales and the dollar returns and allowances:

$$\begin{aligned}
\text{Let gross sales} &= 100\% \\
\text{Returns and allowances} &= \underline{\ 10\%\ } \\
\text{Net sales} &= \ 90\% \\
90\% \text{ of gross sales} &= \$81{,}000 \\
\text{Gross sales} &= \frac{81{,}000}{90\%} = \$90{,}000 \\
\text{Returns and allowances} &= \\
&\$90{,}000 \text{ (gross sales)} - \$81{,}000 \text{ (net sales)} = \$9{,}000.
\end{aligned}$$

Receipts and credits excluded from sales. A number of transactions that have a superficial resemblance to sales should be excluded. These are:

1. Interest on installment accounts received from customers. This should be treated as "other income," a financial earning as distinct from a merchandising earning.

2. Alteration receipts from customers for altering or finishing merchandise at the time of sale. These should be treated as reductions in the cost of making the alterations. Such alterations generally represent not a sale of service to yield an independent profit but simply a service offered to the customer at cost or

even less. The net loss should be treated as an addition to the cost of merchandise sold.

3. Sales taxes and retailers' excise taxes collected from customers. Here the store acts as an agent for the state or local government in collecting the tax. In many stores, the tax money is segregated from sales receipts as soon as it is collected.

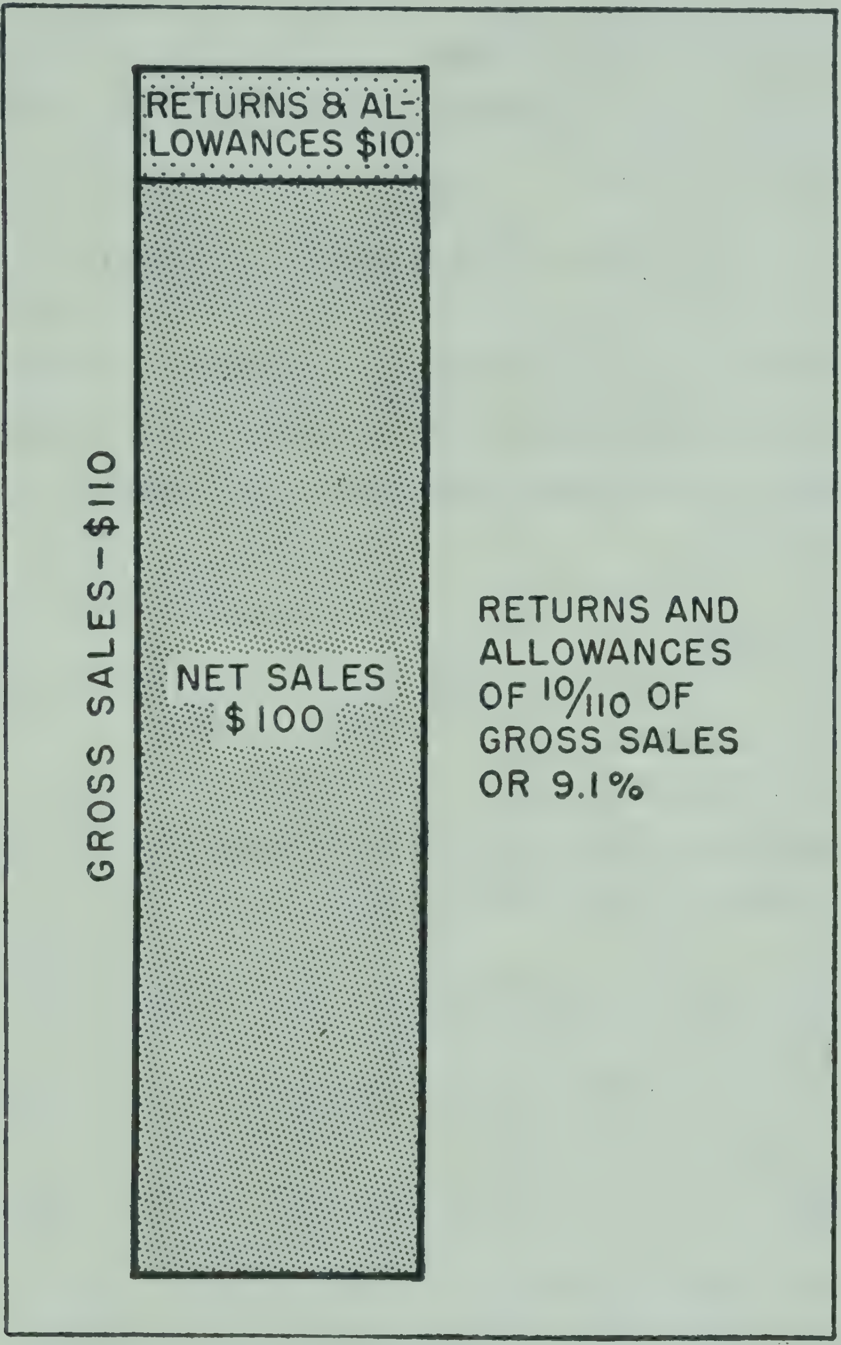

FIGURE 3. Returns and Allowances.

4. Occasional sale to customers of supplies bought by the store for use in the business. As a service to a customer, a supply item, such as a hat box, may be sold at approximate cost. The receipts are properly treated as a reduction in the supply expense or inventory account, not as a sale.

5. Payments made by customers on charge and installment sales. These are credits to accounts receivable and normally have no effect on the sales figures.[2]

6. Transfers to other departments or other stores in a chain. When dresses, for example, are moved from one dress department's stock to another, the sending department may loosely regard the transaction as a sale but it is actually a reduction in the purchase account of the department. The transfer thus has the same effect on purchases as a return to a vendor, a transaction discussed below.

Nature of Purchase Figure

Items included. The purchase figure needs elaboration. Specifically, it should include the following factors, many of which appear on the face of the invoice submitted by the vendor to the store:

Gross Purchases.
  Billed cost of merchandise purchased for resale, including goods on consignment.
  Transportation charges on purchases.
  Manufacturers' excise taxes passed on to the store.
  Special charge sometimes made for containers and packing boxes.
  Special charge sometimes made for prepacking.
  Stock alterations.
  Elements in landed cost in connection with goods imported directly (duty, insurance, fees, et cetera).
  Transfers from other departments (or from other stores in the chain).
Less returns and allowances at billed cost.
Less transfers out of the department.
The remainder is net purchases.

Equipment and supplies for consumption in the store and not for resale should not be included in purchases since their cost becomes a part of the assets or of the operating expenses of a store.

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[2] See Appendix A for the handling of installment sales.

Purchases at billed cost. Billed cost, as used above, represents invoice cost less trade and quantity [3] discounts but not less strictly cash discounts. For example, goods may be bought at a list price of $1,000 with a trade discount of 40 per cent and a cash discount of 2 per cent. The goods should be charged in as purchases at a "billed cost" of $600. Some stores do deduct cash discounts also, evaluating their purchases at actual cost price, in this case $588. But the usual practice is to disregard cash discounts in accumulating purchase and inventory figures and to take credit for them either as "other income" that is an addition to "operating profit," or as an adjustment downward of the "cost of merchandise sold." [4]

Consignment purchases. Merchandise purchased on consignment is generally treated as an ordinary purchase, even though the store has a right to return the goods that they fail to sell. The only exception that should be recognized is where a vendor makes permanent arrangement to carry some of his stock in the store's warehouse for convenience in making delivery. In these instances, this stock need not be included in the purchase figure until requisitioned into the store stock. If consigned goods are not included in the purchase figure, there is danger that they will not be segregated when physical inventory is taken and that there will be an error in the inventory. Furthermore, if consigned goods are not thought of as *purchases,* overbuying is likely to occur, leading to markdowns on the stock owned.

Transportation charges and other costs. Transportation charges are an element in the cost-purchase figure, for the true cost of merchandise is the cost at the store, not the cost in a distant market. All express, freight, cartage, and parcel-post charges on incoming merchandise paid by the store rather than by the shipper are added to the $-billed-cost figure. While the transportation charges on each shipment may be recorded as a purchase along with the merchandise amount, a more common practice is to accumulate the charges each week or month and to add this amount to the cost purchases of this weekly or monthly period.

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[3] In some stores, quantity discounts obtained as a result of group purchases with associated stores are not deducted from the purchase figure but are treated in the same manner as cash discounts.

[4] In some stores, purchases are charged in at a "loaded" cost. This practice is explained in Appendix A.

Manufacturers' excise taxes are imposed in some cases. They are paid by the vendor but passed on to the store as a distinct item on each invoice. Containers are not commonly charged for, except in the case of foreign purchases, although barrels and other returnable containers are often billed to the store, to be credited when returned. Prepacking is becoming increasingly common. Stores are prevailing upon vendors to pack goods in unit containers that can be used in delivery to customers, eliminating repacking in the store.[5] Stock alterations include the repair, cleaning, restoring, or modifying of goods in stock before sale. They do not include the alterations of merchandise at the time of sale. The latter are treated as "alterations and workroom costs." See page 36.

Landed cost. Merchandise imported directly from abroad is valued at what is known as "landed cost." This represents the cost at the store, not the cost in the foreign market. It includes foreign cost in terms of dollars; rail, ocean freight, and cartage; insurance; commissionaire's fee; duty; brokerage; entry fee; and other direct costs necessary to land the merchandise. Some stores include in the landed-cost value of merchandise a percentage charge for the expenses of foreign buying offices, of the import office in the store, and of the buyer's trip. A better practice probably is to treat these items as a part of operating expenses, since they are not a direct charge against each individual foreign purchase.

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[5] Some believe that any extra charge made for this service should be treated as a store packing expense since it replaces the packing function in the store. It is argued that buyers will not cooperate in prevailing upon vendors to unit pack if the charge is going to increase merchandise costs. Buyers are held strictly accountable for this figure but not for packing and delivery expenses. On the other hand, as a standard of practice it is desirable to follow the clear-cut and obvious procedure of including any charge made by the seller as a part of the purchase price of the goods.

Where considerable direct importing is being done, it is often desirable to segregate the purchase of domestic merchandise from the purchase of foreign merchandise so as to determine the ratio of foreign purchases. If inventories and sales are also segregated, the gross margin on imports may be determined.

Transfers. The purchase figure of the individual selling department of a department store or of the store unit of a chain includes transfers *in* and *out*. A *transfer in* is a purchase from another department or another unit of the chain rather than from an outside vendor. A *transfer out* is similar to a return to a vendor in that goods are sent out of a department or store unit into another, reducing the figure for total merchandise handled.

Returns and allowances. The purchase figure used in the profit calculation represents the net result after returns to and allowances by vendors are subtracted. A return represents a cancellation of a purchase, and an allowance represents a reduction in cost price after goods were first charged in as purchases. An allowance may be in the nature of a rebate. Both reduce the gross-purchase figure.

Promotional allowances. There is difference of opinion as to whether promotional allowances from vendors should be treated as quantity discounts and deducted from the purchase cost, or treated as reductions in store expenses. For example, vendors sometimes agree to pay part or all of the cost incurred by the retailer in advertising their products, and they often reimburse the store for wages of salespeople or demonstrators who specialize in selling the manufacturers' lines. Such payments to the store are commonly made by allowing the store to deduct the amounts involved when they pay for their purchases. Some years ago, two large organizations of retail stores went on record recommending that allowances be treated as reductions in the purchase figure, except in those cases where salesmen demonstrating a manufacturer's product in the store are paid by the manufacturer directly, the store having no interest in the amount involved.

More recently, however, the board of directors of the National Retail Dry Goods Association recommended that advertising allowances should not reduce the purchase figure but be credited to the expense of store advertising. Sales-promotion managers who wish to reduce store advertising expenses in relation to sales argue that these allowances are not discounts but rather advertising expenses of the manufacturers; if the manufacturers find it advantageous to advertise in local newspapers in cooperation with a retailer rather than wholly independently, they are substituting one type of advertising for another and are not reducing the cost prices of their goods.

A fully accepted standard of practice is still to be evolved, but for purposes of accurate comparison, it is desirable to deduct allowances from purchases. If the advertising figure is reduced, the percentage of advertising to sales becomes meaningless as an index of the amount of advertising necessary to produce a given sales volume.

Nature of Inventory Figure

The inventory figure includes the value of goods on hand at a specified inventory date. The goods do not have to be in stock, however. They may be in one of various nonselling departments of the store (for inspection, for example), in the hands of the manufacturer (for repair), or even in the hands of the customer on approval. It follows that goods belonging to customers but in the store for repair or inspection are *not* a part of the inventory. Goods on hand belonging to the manufacturer but purchased on consignment *are* to be treated as a part of the inventory.[6] Supplies on hand to be consumed in the operation of the business are excluded.

The principle of inventory valuation that is generally followed by mercantile enterprises for merchandise on hand is known as "cost or market, whichever is lower." [7] This means that whenever a stock on hand is worth as much or more today than the amount paid for it, it is valued at the amount it cost the store; whenever it is worth less today than the amount paid for it, it is valued at today's lower price—this is the current price for identical goods in the wholesale market. Since stocks tend to depreciate in value between the time they are bought and the time they are sold, inventories are often evaluated at less than they originally cost the merchant.

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[6] See the discussion on page 29.

[7] Some stores use the purchase cost method instead and some large stores are using another basis for income tax purposes and reports to stockholders. This is the *Lifo* method, explained in Appendix C.

Cost method. There are two ways of determining the cost or market valuation of the goods: the cost method and the retail method. Under the cost method of inventory, goods are counted at cost value, not retail, ordinarily by means of cost codes on price tickets. When depreciation has taken place in the value of any of the stock on hand, the amount of such depreciation is estimated and subtracted from the original cost of the inventory. An estimate should also be made of the cost of transportation applicable against the closing inventory, and this figure should be included as an element in the final inventory valuation. For example, the present value of the closing inventory may be computed as follows:

Billed cost of inventory	$10,000
Transportation	100
	10,100
Depreciation	500
Present value	$ 9,600

Methods of determining the amounts of transportation and depreciation are explained in a later chapter.

Retail method. Under the retail method of inventory, the total retail value of the stock of each department is determined by listing and totaling the current retail prices appearing on price tickets. The markup realized on all the merchandise handled in the department during the year or season just ending is then used to find the cost. For example, during a year the markup on all the purchases plus opening inventory may be 40 per cent of retail, and at the end of the year the current retail price of the stock on hand may be $10,000. The cost-or-market value is determined by subtracting 40 per cent of $10,000 from $10,000, giving $6,000. This system automatically adjusts the value of the closing stock for depreciation, as will be explained in Chapter 15.

Cost of Merchandise Sold

The difference between the total merchandise handled at cost (inventory plus purchases) and the closing inventory at *cost-or-market* is called the *gross cost of merchandise sold.* For example, the opening inventory may be $30,000 at cost and the purchases $60,000 at cost. $90,000, then, is invested in merchandise during the period, and of this total $25,000 worth of stock is still on hand at the end. The difference of $65,000 represents the cost value of goods moved out of stock through sales or otherwise.

Elements in cost. This cost of $65,000 must not be regarded as only the amount that the store paid for the goods it sold for $100,000. Since stocks of consumers' goods are generally depreciating in value rather than increasing, ending inventories are generally valued at a market value less than cost. In the example the inventory of $25,000 at the end of the period may have cost the store $30,000. The actual cost of the articles sold for $100,000, then, may have been only $60,000. The cost of merchandise sold of $65,000 includes the loss in value on the stock on hand as well as the cost of the articles sold.

There is generally a further element in the cost of merchandise sold figure: this is shortage. In the illustration, the store invested $90,000 in goods. At the end, stock that may have cost $30,000 and that has a present value of $25,000 is left. Goods that cost $60,000 have apparently moved out of stock. But this does not mean that all of this stock was sold. Some may have been lost, stolen, or destroyed. The sales of $100,000 may have been realized on goods that cost the store only $58,000. The additional $2,000 worth of goods that moved out of stock may have been stolen or, through error, customers may have been given more merchandise than they paid for.

The cost of merchandise sold figure is thus found to contain three distinct elements:

1. Cost of the articles sold, including transportation.
2. Cost of the articles lost, stolen, or destroyed.
3. Amount of depreciation on the stock left on hand.

These figures do not need to be separately calculated, for their sum is obtained automatically by subtracting the present cost of stock on hand from the cost of the total merchandise handled.

When prices are going up and the present value of the stock on hand is more than cost, the cost of merchandise sold figure would not include the third element listed, for there would be no depreciation. The cost of merchandise sold, however, would not be reduced by the appreciation in value of the stock on hand. For example, if the closing stock cost $25,000 but is now worth $30,000, the cost of merchandise sold is $65,000, not $60,000, for inventories are valued at *cost or market,* whichever is lower.

Costing sales. Some stores selling high-priced goods obtain a cost of sales figure by *costing sales,* that is, salespeople are required to indicate on each salescheck not only the selling price but also the cost in code. Thus, a cost of sales figure as well as a sales figure is obtained. This cost of sales figure, however, is less than the cost of merchandise sold obtained under the usual method, because of three factors:

1. It does not include depreciation on the remaining inventory.
2. It does not include shortage—in case of stolen or broken merchandise.
3. It does not include transportation charges because of the difficulty of including the cost of getting each item to the store in the cost code placed on each price ticket and salescheck.

To obtain from the cost of sales the correct figure for the gross cost of merchandise sold, it is necessary to calculate these three items and add them to the cost of sales obtained from codes on saleschecks.

Costing of sales is not to be recommended (1) because of the great labor involved in auditing every sale at two prices, (2) because of the probability of error in recording codes on saleschecks and price tickets, and (3) because of the adjustments necessary. The plan is possible only where sales transactions are large and few in number. For most stores, the standard method of subtracting closing inventory from total merchandise handled is to be recommended.

Cash discounts. In some stores, two adjustments have to be made in the value of the cost of goods sold before subtracting this figure from net sales. One has to do with cash discounts, and other with alteration costs.

If purchases are charged in at billed rather than actual cost, as is usually the case, the cost of goods sold is somewhat overstated and should be reduced by the amount of cash discounts earned on purchases. For example, if the total merchandise handled at billed cost is $90,000 and the closing cost inventory is $25,000, the gross cost of merchandise sold is $65,000. Since cash discounts have not been deducted from either the $90,000 or the $25,000, it is obvious that the cost of goods sold is overstated by the amount of cash discounts earned during the period. If these amount to $3,000, the *net* cost of merchandise sold is only $62,000.[8]

Alteration and workroom costs. A second adjustment in the cost of goods sold figure is to account for "alteration and workroom costs." This is the cost of operating service departments maintained for the purpose of completing the sale of merchandise already retailed. The amount must include materials, supplies, labor, and all expenses in which such service departments directly participate. The net cost of these departments, after any income received from customers has been deducted, should obviously be borne by the regular selling departments they serve. Examples of workrooms that are generally operated as service departments are the women's apparel alteration department, men's busheling room, corset workroom, carpet workroom, silver engraving, furniture polishing, and drapery workrooms. These departments are not regular selling departments making sales to customers and attempting to make a profit. They may be called subsidiary departments in that they exist primarily to assist regular departments to complete sales by fitting the merchandise to the needs of customers. The women's alteration room serves the women's ready-to-wear departments, the busheling room the men's wear departments, the corset workroom the corset department, and so forth.

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[8] See Appendix A for a detailed discussion of cash discount computation and of other points in the operating statement where credit may be taken for discounts.

It is a question whether alteration costs should be treated as a part of the operating expenses of the store and departments involved or as an addition to the cost of merchandise sold. The accepted practice in department stores is to treat them as additions to cost because they provide "form utility," which is not true of store expenses that provide place and time utility. Alteration costs are more akin to manufacturing costs than to the distribution expenses of a store. However, many other types of retail stores commonly include alteration costs in expenses in the interest of simplicity.

These costs might have been included along with purchases, but since they take place after merchandise has been put into stock and retailed, and since they apply only to goods that have been sold and not to all purchases, it has been found desirable to add them to the cost of merchandise sold. The new figure is called *total merchandise costs*. The derivation is more clearly explained by the following example:

Opening inventory	$20,000
Purchases	70,000
Total	90,000
Closing inventory	25,000
Gross cost of merchandise sold	65,000
Cash discounts earned	3,000
Net cost of merchandise sold	62,000

Net alteration and workroom costs	$ 1,000
Total merchandise costs	63,000
Net sales	100,000
Gross margin	$37,000

Gross Margin and Profits

Gross margin. Gross margin is simply the difference between net sales and total merchandise costs. Ordinarily no adjustments need to be made in its amount.[9] It represents the sum available for operating expenses and profits. It may be distinguished from *maintained markup,* which is the difference between net sales and gross cost of merchandise sold. In the example above, the gross margin is the difference between $100,000 and $63,000, or $37,000. The relation between the maintained markup and the gross margin may be illustrated as follows, using the same figures as above.

Net sales	$100,000
Gross cost of merchandise sold	65,000
Maintained markup	35,000
Cash discounts earned (add)	3,000
	38,000
Alteration and workroom costs (subtract)	1,000
Gross margin	$37,000

The gross margin is generally larger than the maintained markup because cash discounts ordinarily exceed alteration costs.

Expenses. A detailed treatment of the nature of operating expenses and the distribution of joint expenses to individual selling departments will be reserved for a later chapter. It should be pointed out here, however, that the expense figure includes many items that involve no immediate outlay of cash, such as depreciation on fixtures, and that it excludes certain cash outlays, such as the purchase of fixtures and merchandise.

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[9] In some stores it is adjusted for the estimated gross margin on goods sold in one period and returned by customers early in the next. For example, during the first 10 days of a new year, $5,000 worth of goods sold the year before may be returned. If the gross margin as regularly computed is 30 per cent, it is clear that $1,500 are being lost to the store by the returns and that this amount should be taken from the gross margin of the year ended.

Depreciation on the investment in building and fixtures is generally regarded as an expense even though no immediate expenditure is made. Likewise, probable losses from bad debts on accounts receivable may be estimated and included in expenses before specific accounts are found to be uncollectible.

Interest. Buyers, particularly in department stores and departmentized specialty stores, should be aware of the fact that *interest* on the average merchandise investment is commonly treated as an operating expense, even though the firm does not have to borrow the funds to support the inventory. The buyer is not deemed to have earned a profit unless he can show a margin above costs and other expenses greater than normal interest on his merchandise investment.

The independent merchant would be well advised to follow the same practice since he, too, is not really engaged in a profitable operation unless he can earn more than a safe return on his investment in merchandise and other major assets. For purposes of uniformity, the Controllers' Congress of the National Retail Dry Goods Association recommends that this be computed at 4 per cent [10] on the average investment in merchandise inventory, and on the value of owned land, leasehold, buildings, equipment, and delivery rolling stock [11] used in the operation of the business.

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[10] Before 1945, the Controllers' Congress and the Harvard Bureau of Business Research computed interest at 6 per cent. But the decline in the prevailing rate for long-time capital made the change to 4 per cent desirable. No attempt is made, however, to change the rate annually to reflect temporary conditions. In order to get a comparison of profits over a period of years, it is desirable to use a uniform rate rather than to change each year with fluctuations in market conditions.

[11] The Harvard Bureau of Business Research in its department store studies charges interest on accounts receivable also, and it is logical to do so. In the case of variety chains, the Harvard Bureau follows a slightly different plan. Interest is charged (1) on real estate (land, buildings, and improvements) owned by the store at a "fair" rate; (2) on the average net worth exclusive of real

A store thus charges itself rent on owned property as well as interest on the value of merchandise. For example, the value of these assets may be $100,000; therefore $4,000 is charged as an expense of the business. If $10,000 of this investment represents borrowed money upon which $500 interest is paid, the $500 expenditure cannot be regarded as an additional expense because it has already been included in charging 4 per cent on the assets into which went the proceeds from the loan. The interest paid must rather be regarded as a deduction from "other income" of the store as a whole.[12] Thus, expenses are unaffected by the interest actually paid out, but other income is reduced by the amount of this expenditure.

Salary of owner. The expense figure should also include salaries of owners actively engaged in the business. There would be little question about including these in the case of a corporation, but individual proprietors and partners sometimes do not include salaries for themselves in expenses, treating all their earnings as operating profits. The accepted plan is to estimate what the proprietor could earn if he acted as store manager for another or what he would have to pay for a manager if he withdrew from active management in the business. This charge would have to be credited back as "other income" of the individual proprietorship or partnership but would not appear as other income in the case of the corporation, unless the salary was not actually paid.

There are two reasons for including in expenses interest on the assets and owner's salary even though they are later credited back as "other income." The first is that the practice distin-

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estate and good will at 4 per cent; and (3) for the amount of interest actually paid on borrowed money whether in the form of mortgages or not. The chief difference here is that credit to other income includes only interest on owned assets, not on all (major) assets, and it is therefore unnecessary to subtract interest paid from other income.

[12] From an accounting standpoint, the entries are as follows:

Debit interest expense	$4,000	
Credit other income		$4,000
Debit deductions from other income ..	500	
Credit cash		500

guishes among earnings of capital, earnings of management, and the return for the risk of entrepreneurship, which is pure profit. If a store cannot earn enough to cover interest and salaries, it is in a true sense running at a loss; the owner would be better off if he could liquidate, invest his money, and work for someone else. For example, a store that does not include interest and owner's salary may show sales of $100,000 and a profit of $5,000, which may seem adequate. But $30,000 may be invested in the business, a capital fund that should earn 4 per cent, or $1,200. Furthermore, the owner may be able to command a salary elsewhere of $4,000. Therefore, he would be $200 better off if he did not have his own business. Had he computed profits, as suggested, he would show a $200 operating loss, a figure that reveals the failure of merchandising operations to yield income in excess of the normal earnings of capital and managerial labor. It should be recognized, however, that many merchants stay in business even though they could do better financially by investing their capital elsewhere and working for others. They prefer the independence of entrepreneurship.

A second reason for including interest and salaries in expense is to allow accurate comparisons among stores that exchange operating data. Some stores lease their property, borrow much of their working capital, and use hired managers. Their expenditures are obviously much more than those of stores that own their own property, borrow no capital, and are run by the proprietors. If the proprietors did not include interest and salaries as an expense, they would show a much lower expense and a much larger profit, even though they were operated no more efficiently than the other group.[13] Standardization of accounting puts expense and profit figures on the same basis, regardless of the financial set-up of different businesses.

Other income. The operating profit, derived after including in expenses all the elements discussed, is not the final net profit or net gain figure upon which a store must pay income taxes. It is the final figure for the individual selling department but not for the store as a whole.

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[13] Rent on owned property is computed partly as interest on the value of the property. Other elements in rent, such as taxes, depreciation, and repairs are usually included in expenses.

Interest at 4 per cent, previously charged as an expense, is surely income to the store and must be added to the operating profit. The same is true of owners' salaries in the case of unincorporated concerns. These bookkeeping entries do not change the final net profit. Furthermore, many stores have other miscellaneous sources of income such as dividends and interest on investments. A reasonably complete list of the items included under "other income" is as follows:

- Other Income.
  - Operating Credits.
    - Interest on merchandise, land, buildings, equipment, fixtures, and delivery rolling stock, previously charged as expense against gross margin.
  - Miscellaneous Credits.
    - Cash discounts on *expense* purchases.[14]
    - Interest received on bank balances, certificates, notes, and bonds.
    - Dividends from investments.
    - Income from the sales of waste paper and boxes.
    - Income from carrying charges on deferred payment accounts.
    - Income from vending machines.
    - Unclaimed cash, merchandise credits, and salaries.
    - Profits from the sale of securities or capital assets, including real-estate operations.

Frequently commissions from leased departments are included in "other income," but the inclusion of leased departments' sales in the sale figure[15] is to be recommended. Again, cash discounts on merchandise purchases are frequently included, but it is recommended that they be treated as deductions in the cost of merchandise sold.

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[14] Some stores include cash discounts on merchandise purchases also at this point.

[15] See Appendix A.

Deductions from other income. There are a few items of loss or expenditure that are not included in operating expenses and are rather deducted from "other income."

The chief items are as follows:

1. Cash discounts lost. If credit has been taken in the cost of merchandise sold for all discounts potentially available, the amount of cash discounts lost is subtracted from other income rather than from "cash discounts earned."
2. Losses from the sale of securities and capital assets, including real-estate operations.
3. Interest paid on borrowed money, whether by means of notes, accounts payable, or bonds, including amortization of bond discount. As previously explained, these are not treated as expenses because expenses include interest at 4 per cent on the assets into which such borrowings have been converted. To treat interest paid as an expense would result in charging the same expense twice.
4. Previously unclaimed cash, merchandise credits, and salaries now claimed.

Complete operating statements. A complete profit-and-loss statement applicable to a selling department or to the store as a whole, as a consolidated statement, appears on page 44. The figures are based on the simplified statement at the beginning of the previous chapter.

The student of merchandising is frequently at a loss to understand why so much emphasis is placed upon an exact and rigid arrangement of the many factors entering into the operating statement. He may correctly observe that any one of many arrangements will yield the same final net-profit figure. In fact, since the computations involve addition and subtraction primarily, it is possible to put all the pluses in one column and all the minuses in another and draw off the correct profit result.

But a study of the figures involves more than an attempt to obtain the correct profit answer. A standard arrangement provides an analytical picture of results that makes possible a determination of points of strength and weakness and comparisons with other stores. Again, profit finding involves much more

Operating Statement

Sales Schedule

			Per Cent
Gross sales		$110,000	
Less returns and allowances		10,000	9.09
Net sales		$100,000	100.00

Cost of Sales Schedule

Inventory—first of period		20,000	
Gross purchases (billed cost)	$73,000		
Less returns and allowances	4,000		
Net purchases		69,000	
Transportation charges		1,000	
Total merchandise handled		$90,000	
Inventory—end of period at billed cost	26,614		
Transportation in inventory	386		
Less depreciation	2,000		
Inventory—end of period at cost or market[a]		25,000	
Gross cost of merchandise sold		65,000	65.0
Cash discounts earned		3,000	3.0
Net cost of merchandise sold		62,000	62.0
Net alteration and workroom costs		1,000	1.0
Total merchandise costs		$63,000	63.0

Net Gain Schedule

Gross margin ($100,000 – $63,000)		$37,000	37.0
Operating expenses, except for interest	$28,500		
Interest on selected assets	1,500		
Total expenses		30,000	30.0
Operating profit		$7,000	7.0
Other income[b]:			
Operating credits (interest on assets)	1,500		
Miscellaneous other income	500		
Deductions from other income	1,000	1,000	1.0
Net profit before Federal income tax		$8,000	8.0
Provision for Federal income tax		......	
Net profit after Federal income tax		......	
Available for dividends or sharings, and surplus		......	

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[a] Under the retail method, this figure is obtained directly from the retail inventory figure by complement of markup, as explained in Chapter 14.

[b] "Other income" would not appear in departmental statements. It is included here so that both types of statement may be explained with one example.

than adding and subtracting figures. A complete collection of all the pertinent data is essential, and the inventory must be evaluated to reflect market value when it is less than cost.

REVIEW QUESTIONS

1. Distinguish between *gross sales* and *net sales.*
2. What is the distinction between a *return* from a customer and an *allowance* to a customer?
3. Explain why an allowance made for a trade-in may be handled as a customer return.
4. Why does an allowance require a markdown as well as subtraction from gross sales?
5. How are returns and allowances expressed for purposes of comparison?
6. What transactions involving receipts from customers should be excluded from *sales*?
7. Should any item be treated as a sale if it is not included in purchases?
8. What are the elements included in gross purchases?
9. The values of what transactions are subtracted from gross purchases?
10. What discounts are to be deducted in arriving at the billed cost of purchases?
11. How should consignment purchases be handled?
12. Why is the transportation charge on purchases treated as a cost rather than as an expense?
13. What elements should be included in landed cost?
14. Distinguish between *transfers in* and *transfers out.*
15. What are the two ways promotional allowances may be handled? Explain how advertising expenses may be distorted if not credited to purchases.
16. Do all the goods included in inventory have to be in stock?
17. Do the inventory figures represent the cost of merchandise on hand, its replacement value, or both?
18. What is meant by the cost method of inventory? Does it mean valuing goods at original cost?
19. What is meant by the retail method of inventory? Does it mean that no record of cost values is kept?
20. What three cost elements are reflected in the gross cost of merchandise sold?

21. What is meant by *costing sales* and why is the practice uncommon?
22. Why are cash discounts earned on purchases subtracted from the gross cost of merchandise sold?
23. What elements are included in *alteration and workroom costs*? Why are they added to net cost of merchandise sold?
24. Distinguish between *maintained markup* and *gross margin.*
25. Explain the procedure of charging *interest* as an *expense* and including it in other *income.* What other figure is treated in the same way?
26. What are the reasons for including interest on the investment among the operating expenses?
27. Name the items included in *gross other income.* Name the deductions from *gross other income.*
28. Why is it important to follow a standard arrangement in drawing up a profit and loss statement?

4

How to Analyze the Profit and Loss Statement

The profit and loss statement developed in the last chapter indicates that the amount of profit is dependent upon three major sets of factors: (1) the volume of dollar sales; (2) the margin above cost at which the sales are made (the difference between net sales and cost of merchandise sold); and (3) the expenses. Dollar sales, in turn, are the result of selling merchandise at a price: thus, they consist of the number of sales transactions times the average sale in dollars. Margin is the difference between the original markup taken on purchases and the reductions in price that occur before the goods are finally sold. Expenses are the product of certain units of service procured times the average cost of each unit.

As a basis for planning in order to earn maximum profits in the future, it is necessary to go beyond the accountant's operating statement and to analyze the elements behind (1) the dollar sales, (2) the gross margin, and (3) the expenses.

Analyzing Sales

The dollar sales that a retailer realizes are the product of the number of his transactions and the average price of each transaction. Thus, if a one-price shoe store sells 500 pairs of shoes at $10 a pair, its sales are $5,000. If shoes at various prices are sold but the average price is still \$10, the dollar sales for 500 pairs remains the same, \$5,000. As an equation:

$$\$\ \text{Sales} = \text{Number of transactions} \times \text{Average}\ \$\ \text{sale}.$$

In practice, where there are different prices at which sales are made, records are kept of both the dollar sales and of the number of transactions, and the average sale is found by dividing the dollar sales by the number of transactions. As an equation:

$$\text{Average}\ \$\ \text{sale} = \frac{\$\ \text{Sales}}{\text{Number of transactions}}\ .$$

Likewise:

$$\text{Number of transactions} = \frac{\$\ \text{Sales}}{\text{Average}\ \$\ \text{sale}}\ .$$

This last relationship is of value in estimating present or future transactions when dollar sales and average sale may be readily determined or approximated.

Components of dollar sales. Every analysis of sales must get back to the component parts of the dollar sales figure: number of transactions and the amount of the average sale. Dollar sales may be showing handsome increases, but a breakdown may reveal that they are the product of fewer transactions at considerably higher prices. This would indicate that many customers are being priced out of the market—that a diminishing number of still affluent ones are supporting the dollar volume. This is a danger signal, often forecasting a drop in dollar sales when those willing and able to buy at still higher prices are not numerous enough to support dollar volume at former levels. Once the break in dollar volume occurs, the drop is often sharp, leading to heavy losses as merchants scramble to unload heavy inventories. When inventories are controlled, however, by watching the trend in transactions, there is less danger of failure to anticipate coming declines in dollar volume and prices.

Knowledge of the component elements in dollar sales also helps in the analysis of expenses. If a sales increase is the result of more transactions, with no change in the average sale, handling expenses are likely to increase in direct ratio to the change in transactions and the increase in sales. If the dollar increase in sales, however, is the result of higher unit sales but no increase in transactions, handling expenses should not increase very much and the ratio of expenses to dollar sales should fall. If the expense ratio rises during a period of rising dollar sales but fewer transactions, this combination of events indicates that inflationary forces affecting the average sale are exerting even greater influence on expenses: pay roll and advertising in particular are probably getting an undue share of the sales dollar.

Relative changes. When percentages of change rather than quantities are available for analysis, the calculations must be expressed in terms of relatives. For example, if a 20 per cent increase in transactions occurs and a 10 per cent increase in the average sale, it is not possible to multiply 20 by 10 to find the increase in dollar sales. The correct solution is as follows:

Let last year's transactions = 100
and last year's average sale = $1.00
and last year's dollar sales = $100.
Therefore, this year's transactions = 120
And this year's average sale = $1.10
This year's dollar sales, then = 120 × $1.10, or $132,
a 32 per cent increase over last year's sales of $100.

This percentage relationship is also of value in calculating the change in the average sale or in the number of transactions when the other factors are known. For example, if dollar sales increase 20 per cent while transactions fall 10 per cent, the equation:

$$\text{Average \$ sale} = \frac{\text{\$ Sales}}{\text{Number of transactions}}$$

may be applied as follows:

$$\begin{aligned}
\text{Let last year's \$ sales} &= \$100\\
\text{And last year's transactions} &= 100\\
\text{And last year's average sale} &= \$1.00\\
\text{Therefore, this year's \$ sales} &= \$120\\
\text{And this year's transactions} &= 90
\end{aligned}$$

$$\text{This year's average sale, then,} = \frac{\$120}{90} = \$1.33\tfrac{1}{3},$$

an increase of 33⅓ per cent over last year.

Again, if dollar sales decline 20 per cent while the average sale is rising 10 per cent, the change in transactions may be calculated from the equation:

$$\text{Number of transactions} = \frac{\text{\$ Sales}}{\text{Average \$ sale}}$$

$$\begin{aligned}
\text{Let last year's sales} &= \$100\\
\text{And let last year's average sale} &= \$1.00\\
\text{And, last year's transactions} &= 100\\
\text{Therefore, this year's sales} &= \$80\\
\text{And, this year's average sale} &= \$1.10
\end{aligned}$$

$$\text{This year's transactions, then,} = \frac{\$80}{\$1.10} = 72.7, \text{ a}$$

decrease of 27.3 per cent from last year.

Transactions—a new basis for comparison. Until recently, nearly all profit factors such as margin and expenses were analyzed only in relation to dollar sales, but the tendency today is to relate these factors to transactions as well. For example, with anticipated sales of $100,000 and with expenses of $30,000, a 30 per cent margin on goods sold would seem to be a minimum in order to avoid loss. But a breakdown of sales may reveal transactions of 20,000 with an average sale of $5. Relating expenses to transactions, that is dividing $30,000 by 20,000, reveals that each transaction should sell at a minimum margin of $1.50 to cover expenses. Without this analysis, the merchant is likely to conclude that all articles should produce at least a 30 per cent margin: a 70 cent item selling for $1 minimum, a $7 item selling for $10 and a $70 item selling for

Ways to Increase Sales

Since dollar sales are the product of transactions and the average sale, dollar sales may be increased by one or a combination of the following ways:

1. Increase the number of transactions by
    - *a.* Carrying better, more balanced stock assortments.
    - *b.* Improving advertising and publicity methods to get more people into the store.
    - *c.* Improving point-of-sale selling efforts to prevail upon customers in the store to purchase. These include layout and display, as well as personal salesmanship.
2. Increase the average sale by
    - *a.* Promoting and selling higher-priced goods. Paradoxically, lowering the price of expensive goods may accomplish this result by increasing the volume of sales at prices still above the average unit of sale in the store.
    - *b.* Prevailing upon customers to buy more goods at one time. Suggestion selling and multiple pricing are means to this end. The latter practice involves marking a number of articles at a lower price than the sum of their individual prices, such as 35 cents each, three for $1.

$100.[1] Once it is realized that each transaction costs $1.50 to handle, the 70 cent item would be recognized as losing money if sold at $1 and the $7 item for $10 would be recognized as very profitable. If a retail price less than $10 but at least $8.50 would move more $7 merchandise, this price would be deemed a profitable one, even though the margin would be less than 30 per cent.

Expenses of performing various operations are being carefully studied today in relation to transactions, not simply in relation to dollar sales. For example, last year's sales may have been $100,000 with selling pay roll of $5,000 or 5 per cent. Next year, dollar sales may be $110,000 and selling pay roll $5,500, still 5 per cent. Superficially, there has been no undue increase in pay roll costs. But last year's sales may have been achieved by means of 20,000 transactions at $5 each. The pay roll cost of $5,000, then, was actually 25 cents per transaction. This year, the sales of $110,000 may be the product of 20,000 transactions at $5.50 each. This year's pay roll per transaction, then, is $5,500 divided by 20,000 or 27.5 cents. It is now probable that pay roll is getting out of line. Of course, it may be found that the higher average sale takes more selling effort, but if this is not the case the productivity of the sales force has declined and steps should be taken to improve it.

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[1] The 30 per cent margin is figured on the retail selling price rather than on the cost, as explained in Chapter 5.

Likewise, a decline in sales may be accompanied by a smaller decline in expenses and show an increase in the ratio of expense to dollar sales, but the actual expense of handling a transaction may be no higher than before. For example, dollar sales may decline from $100,000 to $80,000 and expenses may drop from $30,000 to $28,000. The expense ratio, then, has risen from 30 per cent to 35 per cent. But the 20 per cent drop may be caused wholly by a lower average sale with transactions holding at the former level of 20,000. Last year's expenses were $1.50 per transaction ($30,000 ÷ 20,000) and this year's expenses are $1.40 per transaction ($28,000 ÷ 20,000). Thus, it is clear that expenses are really well under control; the store's major problem is not one of cutting expense but rather of restoring the average sale to its former level.

Trends in sales and transactions. During the prewar, war, and postwar cycles, the difference in trend between dollar sales and transactions appeared in bold relief. The chart on page 53 depicts the situation relative to department stores; a similar situation exists in most other types of stores, as well. Choosing 1939 as the base of 100 per cent, dollar sales (*net sales volume* in the chart) rose by 1947 to 272 per cent or 2¾ times. Transactions rose by 1946 to only 145 per cent and then declined somewhat, to 142 per cent of the 1939 base. The reason for the marked difference between the two trends is found in the sharp increase in the average sale (*size of sale* on the chart). This rose from the base of 100 per cent in 1939 to 189 per cent in 1947. Thus, the dollar sales of 1947 were roughly the result of a 42 per cent increase in transactions and an 89 per cent increase in the average sale: 142 × \$1.89 = 268, which is very close to the reported figure of 272.[2]

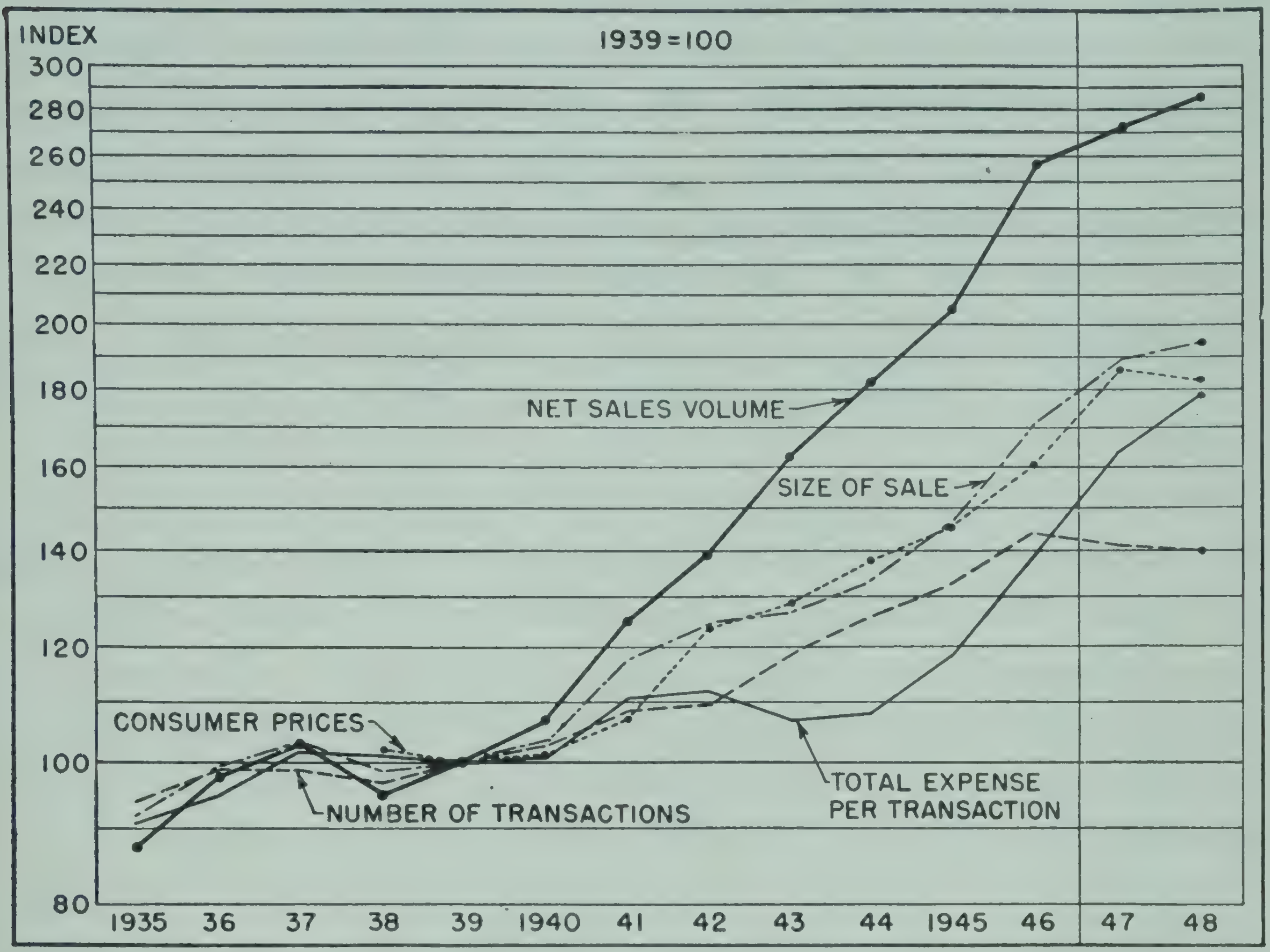

FIGURE 4. Department Store Indexes.

It will be noted that the chief reason [3] for the rise in the average sale (size of sale) was the rise in consumer prices. The dotted line, labeled Consumer Prices, moves very closely to the broken line, Size of Sale.

The fifth line on the chart, the light solid line, reveals the trend in the total Expenses per Transaction. It is calculated first by dividing the actual dollar expenses for each year by the number of transactions each year and second by expressing each year's figure relative to the figure for 1939. It will be noted that the expense of completing a transaction showed only moderate increases until after 1944. Until then, dollar sales and the size of the average sale rose more rapidly than did the expense of handling a transaction. But from 1944 to 1948, the Expense per Transaction increased from an index of 108 to one of 164, a relative increase of 52 per cent, an increase more pronounced than that of any of the other factors. The dollar figures show that in 1939 it cost about 67 cents to handle a transaction (having a net value of $1.90), whereas in 1947 it cost $1.11 to handle a transaction (having a net value of $3.71).

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[2] The figures do not tie in exactly because the reported ones are independent medians and are not adjusted to give in the aggregate the mathematical relationship found in any one store. Again, the relatives for transactions and average sale are based on gross sales, while the sale relatives are net.

[3] There are minor reasons also for the increase in the average sale, such as a tendency to buy more goods at a time, to demand better quality goods, and to shift demand to goods that have a higher unit price.

This sharp rise in the expenses of handling each transaction was the most disturbing fact facing most stores. The rise was the result of inflationary forces affecting expenses to even a greater degree than they affected unit volume. Pay roll expenses, advertising, supplies and heat, light, and power, in particular, rose more rapidly than the number of transactions handled.

How to cut expenses, relative to the number of transactions handled, has become a major problem faced by many retailers, particularly in the department and specialty store fields. The best hope seems to lie in increasing the number of transactions without allowing a corresponding increase in the expenses.

Analyzing Margin

Sales volume is something that can be observed day by day and requires relatively simple processes to compute. A merchandiser must know the final profit or loss figure resulting from his operation. Moreover, in order to analyze his points of strength and weakness, he must understand how the profit result is achieved, beginning with his purchases and the pricing of goods, and ending with his final margin of profit above his cost of sales and expenses. For example, during a year a merchant may buy goods at a cost of $6,600 which he puts into stock at an aggregate retail price of $11,000. During the year, he may be forced to reduce retail prices a total of $900 and he may in addition suffer merchandise losses (shortages) of $100 at retail price. If he sells all his stock, his sales are only $10,000 rather than the $11,000 at which he had originally priced it. During the year, the merchant may incur expenses of $3,000 to sell merchandise and to operate the store.

The following is an analysis of what has happened during the year, and the profit result is computed:

	Cost	*Retail*	*Markup*	*Per Cent* [4]
Purchases	$6,600	$11,000	$4,400 (original)	40
Retail Reductions ..		1,000		10
Sales	$6,600	$10,000	3,400 (maintained)	34
Expenses			3,000	
Profit			$ 400	

From this example, it will be noted that there are two different markups involved in the retail pricing operation: there is the original markup taken on the purchases ($4,400) and the *maintained markup,* which is the markup realized on the sales ($3,400).

Retail reductions. The difference between the two markups is caused by the almost universal inability to sell an entire stock at the price originally intended. Some goods prove unsalable at originally marked prices, some are lost, stolen, or otherwise unaccounted for, and some are sold to employees at reduced prices. The technical name for the difference between the original retail price and final sales price ($1,000) is the *retail reductions.*

It should be carefully noted that *retail reductions* consist of three elements:

(1) *Markdowns,* which are price reductions caused by inability to sell goods readily at original or subsequently determined retail prices.

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[4] Markup is figured on retail rather than on cost, as explained in Chapter 5.

(2) *Merchandise shortages,* which loss is reflected in the discrepancy between the amount of inventory that the records indicate should be on hand and the amount actually on hand.

(3) *Discounts to employees and customers,* which are price reductions taken, not because goods are depreciating and must be offered at a lower price, but as a matter of policy to recognize certain favored groups. The trend is in the direction of limiting such discounts to employees, and not making them available to customers.

The retail reductions of $1,000 in the example above, then, might consist of the following:

	Dollars	*Per Cent of Net Sales*
Markdowns	$800	8.0
Shortages	150	1.5
Discounts to employees	50	0.5
Total	$1,000	10.0

Original and maintained markup per cents. Each of the two markups in the example given ($4,400 and $3,400) is commonly expressed as a percentage of retail. In computing the original markup of 40 per cent, the retail base used is the original retail ($11,000). In computing the maintained markup of 34 per cent, the retail base is the actual sales (the $10,000 in the table). Thus, both the 40 per cent and the 34 per cent are percentages of retails but they are not directly comparable, since the first is based on the original retail and the second on the final retail—the sales. It is standard practice to express retail reductions as a percentage of sales, not as a percentage of the original retail price of purchases. Thus, they are 10 per cent in the example, not 9.09 per cent.

Maintained markup to gross margin. It was found in the last chapter that the alteration and workroom costs and the cash discounts earned on purchases are further elements affecting profits. Net alteration costs are an addition to cost of merchandise sold and cash discounts earned are a reduction from it. Both of these factors are brought into the picture after the original markup on purchases has been determined. For example, in connection with the situation depicted in the example, the cash discounts may be 5 per cent of the billed cost of the goods purchased and the alteration and workroom costs may be $130. The example below shows how these factors would affect the profit calculation. The cost price is decreased by the cash discounts and increased by the alteration and workroom costs. When so adjusted, the cost of merchandise sold is called the *total merchandise costs.* The original markup remains unchanged, but markup on sales is increased by the cash discounts and decreased by the alteration costs. This markup on sales (the $3,600 shown below) is called the *gross margin,* as distinct from the maintained markup (the $3,400 in the first example). The gross margin may be defined, then, as the difference between the net sales and the total merchandise costs, whereas the maintained markup is the difference between the net sales and the gross cost of merchandise sold (the original cost without adjustments).

	Cost	*Retail*	*Markup*	*Markup Per Cent*
Purchases	$6,600	$11,000	$4,400	40
Cash discount earned (5%)	— 330			
Retail reductions		1,000		
Net cost	$6,270			
Workroom and alteration costs	+ 130			
Total merchandise costs	$6,400			
Sales		$10,000	3,600	36
Expenses			3,000	
Profit			$ 600	

Instead of adjusting the cost of merchandise sold for cash discounts and workroom costs, the maintained markup may be calculated first and then the cash discounts *added* to it and the workroom costs *subtracted* from it, as follows:

	Cost	*Retail*	*Markup*	*Markup Per Cent*
Purchases[5]	$6,600	$11,000	$4,400	40
Retail reductions		1,000		
Sales	$6,600	$10,000		
Maintained markup			3,400	34
Cash discounts earned			+ 330	
			3,730	
Alteration and workroom costs			— 130	
Gross margin			3,600	36
Expenses			3,000	
Profit			$ 600	

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[5] In this discussion, the concept of an opening and a closing inventory has been omitted. It has been assumed that all purchases have been sold. In practice, some are left in a closing inventory. Accordingly, the cost of merchandise sold is not usually the same as the cost of purchases. But the introduction of inventories does not make any fundamental difference in the initial and maintained markups, as the following example indicates:

	Cost	*Retail*	*Markup*	*Markup Per Cent*
Opening inventory	$ 4,200	$ 7,000		
Purchases	6,000	10,000		
Total merchandise handled..	$10,200	17,000	$6,800	40
Closing inventory	3,600	6,000	2,400	40
Total retail deductions		11,000		
Total reductions		1,000		
Sales		$10,000		
Gross cost of merchandise sold	$ 6,600			
Maintained markup			$3,400	34

The original markup is here calculated, not on the purchases alone, but upon the sum of the opening inventory *and* purchases—called the total merchandise handled. The opening inventory may be regarded as the first purchase of the period, since it represents the amount carried over from the previous period. When the original markup is based on the total merchandise handled, it is called the *initial markup*.

To find the cost of sales ($6,600 in the example) it is necessary to subtract the closing inventory at cost from the total merchandise handled. In the example, $10,200 worth of goods was bought of which only $3,600 worth remain at the close. The difference in value of $6,600 has gone out of stock and represents the gross cost of the merchandise sold. Sales ($10,000), less this cost ($6,600), equals the maintained markup, the $3,400 in the example. Sales are usually obtained from daily records; but as the table indicates, the figure may be de-

Thus, gross margin may be found by adding cash discount to maintained markup and subtracting workroom and alteration costs. As an equation: Gross margin = Maintained markup + cash discounts − workroom costs. It should be noted that in adjusting the cost of merchandise sold, cash discounts are subtracted, whereas in adjusting maintained markup they are added. Conversely, in adjusting the cost of merchandise sold, workroom and alteration costs are added, whereas in adjusting markup they are subtracted.

Ways to Increase the Gross Margin Ratio

1. Obtain a higher markup on purchases
    - *a.* By buying for less
    - *b.* By selling for more
    - *c.* By selling a larger proportion of the high markup goods already stocked
2. Reduce the amount of the reductions, thus increasing the maintained markup
    - *a.* By reducing markdown losses
    - *b.* By reducing merchandise shortages
    - *c.* By reducing discounts to preferred customer groups, including employees
3. Increase the rate of cash discounts on purchases
4. Reduce alteration and workroom costs
    - *a.* By doing the work more efficiently
    - *b.* By charging customers more

Working in reverse, maintained markup may be found from gross margin, cash discount and workroom data as follows:

Maintained markup = Gross margin − Cash discount earned + workroom costs.

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rived from the retail records. Total merchandise handled at retail, in the example, is $17,000; of this, only $6,000 worth remains at inventory time. A retail value aggregating $11,000, then, has been deducted from stock. This is not all sales; the figure includes markdowns, shortages, and discounts to employees and customers. With these reductions collectively $1,000, the balance of $10,000 is the sales.

Once the sales and the gross cost of merchandise sold have been determined,

Analyzing Expenses

A study of the many items that make up a store's expenses indicates that they may be classified roughly into two groups: those that bear a close relationship to sales volume and those that bear no such relationship. The former, called variable expenses, include wrapping and delivering, selling supplies, auditing, adjustments, receiving, and marking, among others. Most selling pay roll belongs under this heading, too, even though some increase in transactions is often possible without a proportionate increase in selling personnel or in salaries. The latter group of expenses, which bears no immediate relationship to sales, includes rent and other expenses of occupying and maintaining a space in which to operate the business, and many administrative expenses. These are often called *overhead*[6] or *fixed* expenses, in that these amounts can be predetermined for perhaps a year ahead, without consideration of sales volume.

If a store or a selling department is charged with little fixed expense, and most of its expenses vary with the amount of business done, it is clear that increases in volume will not greatly increase profits, since expenses will increase almost as fast. However, fixed expenses are usually a large portion of the total expense—sometimes as much as one half. Accordingly, increases in volume normally increase the gross margin much faster than they increase the expenses, and profits rise very rapidly. See the illustration on page 61.

This "leverage factor," as it is called, is one of the most important concepts in business. Because of the fixed nature of

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the inventories have no further effect on the profit calculation, which proceeds as already explained. As in the example on page 57, the gross cost of merchandise sold may be reduced by the cash discounts earned and increased by the workroom costs to give the total merchandise costs; this sum subtracted from the sales gives the gross margin. Or, as in example on page 58, gross cost of merchandise sold may be subtracted from the sales to give the maintained markup of $3,400. To this, in turn, the cash discounts are added and from it the workroom costs are subtracted to give the gross margin. And the gross margin less the operating expenses gives the operating profit.

[6] The term *overhead* is sometimes applied to all expenses.

many expenses, the fluctuations in profits are usually much greater than the fluctuations in sales.

Further discussion of expenses is deferred until Chapter 25.

The Leverage Factor

	Last Year	*This Year*
Sales	$1,000	$1,400 (up 40%)
Gross Margin	350	490 (up 40%)
Expenses—Fixed ..	150	150 (no change)
—Variable	150	210 (up 40%)
Total ..	300	360 (up 20%)
Profit	50	130 (up 160%)

Analyzing Profits

The dollar profit realized from trading operations is the result of sales, markup, and expense relationships, but its adequacy cannot be determined from the dollar profit figure alone. The profit figure takes on significance only as it is related to some other factor. This factor may be (1) the profit of a previous year; (2) the sales; (3) the merchandise investment made to earn the profit; (4) the net worth, which is the owner's equity in the business; (5) the number of transactions realized; (6) the space occupied in order to earn the profit; and (7) the number of shares of corporate stock to which the profit is to be allocated. See the box on page 62 for an example.

All of these relationships are significant in determining the adequacy of the profits. For example, if profits on a line of merchandise average 25 cents a transaction, the merchant will hesitate to promote 10-cent merchandise even though 5 per cent profit could readily be earned; he would prefer to devote his energies to items that would contribute larger dollar profits per transaction. Again, if selling space is very limited, it should be allotted to items that can earn a large profit relative to the space they occupy. And if funds are scarce, it is important to invest in merchandise that will earn a high return on the investment rather than a high return on the sales.

Ways to Express Profits

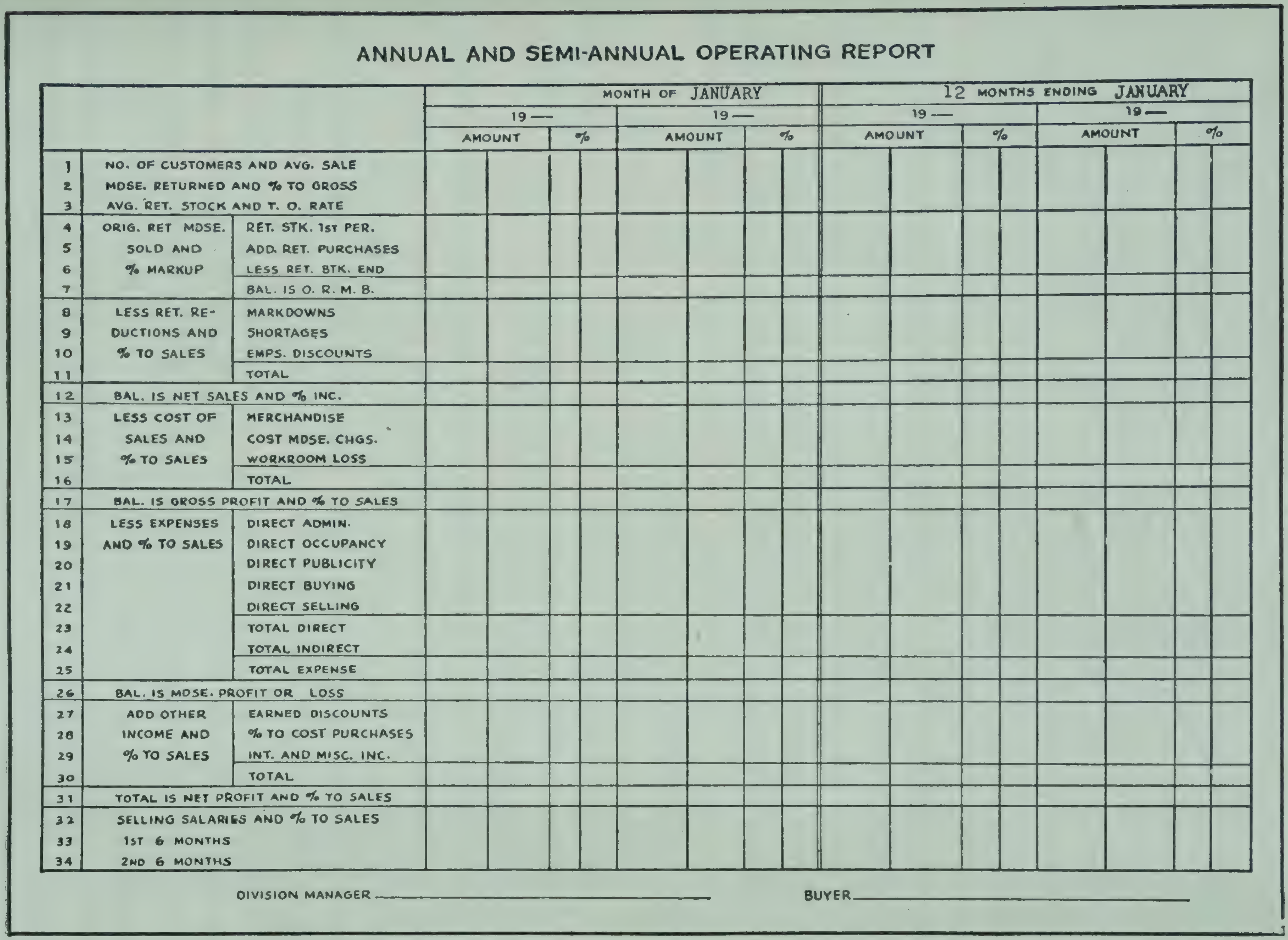
Given: Sales: \$100,000; Profit: \$5,000. Last year's profit: \$4,000
Average merchandise investment at cost: \$12,000
Net worth of the store: \$50,000
Number of transactions: 20,000
Square feet of selling space: 1,000
Shares of stock ownership: 500

1. Relative to last year's profit: $\frac{\$5{,}000}{\$4{,}000} = 125\%$
2. Relative to sales: $\frac{\$5{,}000}{\$100{,}000} = 5\%$
3. Relative to merchandise investment: $\frac{\$5{,}000}{\$12{,}000} = 41.\tfrac{2}{3}\%$
4. Relative to net worth: $\frac{\$5{,}000}{\$50{,}000} = 10\%$
5. Relative to transactions: $\frac{\$5{,}000}{20{,}000} = 25$ cents per transaction
6. Relative to space occupied: $\frac{\$5{,}000}{1{,}000} = \$5$ per square foot
7. Relative to shares of stock: $\frac{\$5{,}000}{500} = \$10$ per share

Are some of these comparisons of more importance than others?

An Analytical Operating Statement

Figure 5 is an operating report arranged to emphasize the basic profit factors. It begins with the number of transactions (number of customers) and the average sale. Line 6 shows the initial markup and line 7 the total retail deductions called "original retail of merchandise sold." Net sales in line 12 falls short of this because of retail reductions. Cost of merchandise sold in line 13 is increased by alteration and workroom costs. Expenses are next subtracted to give operating (merchandising) profit. In this store, cash discounts on purchases are added to operating profit rather than being subtracted from the cost of sales.



ANNUAL AND SEMI-ANNUAL OPERATING REPORT

			MONTH OF JANUARY				12 MONTHS ENDING JANUARY			
			19—		19—		19—		19—	
			AMOUNT	%	AMOUNT	%	AMOUNT	%	AMOUNT	%
1	NO. OF CUSTOMERS AND AVG. SALE									
2	MDSE. RETURNED AND % TO GROSS									
3	AVG. RET. STOCK AND T. O. RATE									
4	ORIG. RET MDSE. SOLD AND % MARKUP	RET. STK. 1ST PER.								
5		ADD. RET. PURCHASES								
6		LESS RET. STK. END								
7		BAL. IS O. R. M. S.								
8	LESS RET. REDUCTIONS AND % TO SALES	MARKDOWNS								
9		SHORTAGES								
10		EMPS. DISCOUNTS								
11		TOTAL								
12	BAL. IS NET SALES AND % INC.									
13	LESS COST OF SALES AND % TO SALES	MERCHANDISE								
14		COST MDSE. CHGS.								
15		WORKROOM LOSS								
16		TOTAL								
17	BAL. IS GROSS PROFIT AND % TO SALES									
18	LESS EXPENSES AND % TO SALES	DIRECT ADMIN.								
19		DIRECT OCCUPANCY								
20		DIRECT PUBLICITY								
21		DIRECT BUYING								
22		DIRECT SELLING								
23		TOTAL DIRECT								
24		TOTAL INDIRECT								
25		TOTAL EXPENSE								
26	BAL. IS MDSE. PROFIT OR LOSS									
27	ADD OTHER INCOME AND % TO SALES	EARNED DISCOUNTS								
28		% TO COST PURCHASES								
29		INT. AND MISC. INC.								
30		TOTAL								
31	TOTAL IS NET PROFIT AND % TO SALES									
32	SELLING SALARIES AND % TO SALES									
33	1ST 6 MONTHS									
34	2ND 6 MONTHS									

DIVISION MANAGER ____________________ BUYER ____________________

FIGURE 5. Annual and Semi-annual Operating Report.

Comparisons with Outside Data

In analyzing the figures that enter into a store's profit and loss statement, comparisons are more important than the figures themselves; figures take on significance only as they are related to other figures. Markdowns of 10 per cent, for example, are in themselves neither too high, too small, or just right. Their adequacy may be judged only as they are compared either with figures of the store's own past performance or with those of other similar stores. If the store's markdown losses had been running 12 per cent of sales and are now reduced to 10 per cent, some improvement has occurred, but there is no sound basis for judgment until the markdowns of others similarly situated are known. If the latter figure is 5 per cent, it is clear that the markdown problem is far from solved, even though there has been some improvement.

Comparisons with other stores are possible (1) by subscribing to publicly available statistical services that report typical figures for an industry and (2) by participating in private figure-exchange associations.

Published reports. Research organizations usually classify data by size of store and sometimes by geographic area. For example, the Controllers' Congress of the National Retail Dry Goods Association prepares annual merchandising and operating results for department and specialty stores, called the MOR reports. Typical data on markup, markdowns, gross margin, expenses, sales changes, stockturn and other pertinent facts are presented for each of some ninety selling departments as well as for the store as a whole. The figures are further classified by store volume—department stores with a volume: less than $1 million; between $1 and $2 million; between $2 and $5 million; between $5 and $10 million; between $10 and $20 million; between $20 and $50 million; and over $50 million. Thus, a women's shoe buyer in a store with a yearly volume of business of between $1 and $2 million need not compare his operations with the typical figures for all shoe departments but only with those of shoe departments in a store the approximate size of his.

The MOR report also presents "top performance" figures, which represent figures typical of the 25 per cent of all the stores (or departments) in a size group that show the "best" performance. For example, the figures for the quarter of the departments in a size group that have the highest gross margins are segregated. The medians of these outstanding departments are reported as the "top" gross margin figure. Similarly, the 25 per cent of the stores having the lowest selling expense rates are segregated, and the median of these expense percentages is similarly chosen to represent "top" expense figures. Thus, a buyer who feels that he can do better than typical has a higher standard toward which to strive—one that is better than that of seven-eighths of all the stores.

A list of organizations providing standards appears on page 67, and Table 1 presents a summary analysis from one of these reports.

There has been a tendency for store executives to place too great reliance on such outside standards and to exert pressure to achieve a typical or a goal figure that does not really apply to the store in question. Typical figures are essentially *medians*—that is, the data is arranged into an *array,* from smallest to largest, and the mid-point (with possibly some adjustment) is taken as the typical figure. Thus, with a typical figure of 40 per cent for markup, the data itself may have ranged from 35 per cent to 45 per cent. It is clearly wrong to assume that the stores reporting markups between 35 per cent and 40 per cent have markups too low and that the others with markups between 40 per cent and 45 per cent have markups too high. Markup should vary, not only with differences in size of store, but also with differences in policy. A store that makes low prices its major appeal and that sells on a self-service basis should obviously have a smaller than *typical* markup. Conversely, a store providing the acme of personal service for its customers must have a higher than typical markup. Since there are many respects in which the stores or departments making up a group are heterogeneous, the averages, whether they are typical or goal figures, are inadequate standards for any but a very few stores in the group. To attribute to the averages the quality of the ideal may lead to very wrong merchandising action.

Nevertheless, in the hands of the trained analyst, comparison of one store's data with the averages assists materially in the diagnosis of weak departments or sections or stores. If a department's markup, for example, is considerably below the typical, there is need for a careful investigation at this point to determine whether store policy or unsurmountable obstacles cause the apparently low markup. If these factors do not seem to explain the markup, the analyst is then ready to explore the thesis that the buying or pricing practices of the buyer may be inadequate and that improvement is possible by positive action.

The situation is similar to the diagnosis of a physician who knows normal temperature, heart beat, blood pressure, blood count, and weight. He does not necessarily judge a patient sick if the patient deviates from the norm. He tries to find the factors in the individual that justify a variation even when the person is well. A good doctor judges a patient even more in relation to his past performance than in relation to standards obtained from humanity at large. Similarly, the merchandising analyst gives more emphasis to variations over a period of time than he does to comparisons with the averages. Yet he does note the former and often uncovers weak spots that the internal comparisons alone would not have revealed.

Private reports. In order to avoid the errors inherent in comparing an individual operation with an average for the trade, some private research groups simply exchange the unaveraged data among their memberships. Thus, one exchange group is made up of twelve stores and every six months each store receives a report on the markup of each of the other eleven stores in the group arranged according to rank. All

Sources of Information—Merchandising and Operating Results

GENERAL

1. *Operating Ratios for Fifty Lines of Retail Trade.* Dun & Bradstreet, Inc., New York, 1948.
2. *Standard Ratios for Retailing, 1939.* Dun & Bradstreet, Inc., 290 Broadway, New York.
3. *Survey of Current Business* (monthly) and weekly supplements. U. S. Department of Commerce, Washington, D. C. Trends in sales and stocks for major types of stores.

DEPARTMENT AND SPECIALTY STORES

1. *Operating Results in Department and Specialty Stores* (annually). Harvard University, Bureau of Business Research, Boston, Mass.
2. *Departmental Merchandising and Operating Results in Department and Specialty Stores* (annually). Controllers' Congress, National Retail Dry Goods Association, 100 West 31st St., New York.

DRUGS

Lilly Digest (annually). Eli Lilly & Co., 31 Spring St., New York.

FOOD STORES

Food Facts (annually) "Progressive Grocer." The Butterick Co., Inc., 161 Sixth Ave., New York, N. Y.

FURNITURE

Furniture Store Operating Reports (annually). National Retail Furniture Association, Chicago, Ill.

HARDWARE

Hardware Survey of Operations, "Hardware Retailer." National Retail Hardware Association, Indianapolis, Ind.

HOUSEHOLD APPLIANCES

Appliance-Radio Dealer Costs-of-Doing Business, "Electrical Retailers News." National Electric and Retailers Association.

MEN'S CLOTHING

Men's Wear Survey (annually), "Men's Wear." Fairchild Publications, 8 East 13th St., New York 3.

TIRES

What it Cost Independent Tire Dealers to Do Business in 1947. National Association of Independent Tire Dealers, Inc., 404 West Street, New York.

VARIETY STORES

Expenses and Profits of Limited Price Variety Stores (annually). Harvard University Bureau of Business Research, Boston, Mass.

TABLE I -

COMPOSITE PROFIT AND LOSS STATEMENT OF MEN'S WEAR STORES—1947

(PER CENT TO NET SALES) a

	Group I (Below $100,000)			*Group II* ($100,000 to $199,999)			*Average All Stores*		
	1945	1946	1947	1945	1946	1947	1945	1946	1947
Sales									
1. Net sales	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Cost of Goods Sold									
2. Beginning inventory	21.	8.4	14.8	15.7	7.2	12.8	15.4	7.2	13.4
3. Net purchases	48.8	82.3	76.7	52.7	72.0	73.4	53.8	71.6	69.1
4. Transportation charges paid	.4	.5	.6	.6	.8	.6	.6	.8	.6
5. Total cost of merchandise sold	70.2	91.2	92.1	69.0	80.0	86.8	69.8	79.6	83.1
6. Ending inventory	9.8	20.5	24.6	7.9	17.1	20.7	9.2	16.2	18.6
7. Net cost of merchandise sold	60.4	70.7	67.5	61.1	62.9	66.1	60.6	63.4	64.5
8. Alteration and workroom costs	.8		.7	1.1	1.0	1.1	1.1	.9	1.3
9. Total cost of merchandise sold	61.2	70.7	68.2	62.2	63.9	67.8	61.7	64.3	65.8
Net Gain									
10. Gross margin	38.8	29.3	31.8	37.8	36.1	32.2	38.3	35.7	34.2
11. Operating expenses	22.6	23.6	22.8	25.7	23.6	23.0	27.0	25.8	25.9
12. Operating (or trading) profit	16.2	5.7	9.0	12.1	12.5	9.2	11.3	9.9	8.3
13. Net non-trading income	.3	1.0	.0	.6	.8	.4	1.0	1.0	.9
14. Net profit (or loss) before Federal income taxes	16.5	6.7	9.0	12.7	13.3	9.4	12.3	10.9	9.2

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a Source: "Fourth Annual Survey of Men's Wear Stores," by Edwards, Schaller and Lockley, *Men's Wear,* October 8, 1948.

twelve of the stores are relatively homogeneous—they are all in the same volume classification (such as doing a volume of business that is between $1 and $2 million dollars a year); they are all in the same section of the country; and they all cater to approximately the same class of trade. Each store knows who the others are by number.

If a store finds its markup, for example, to be the lowest among the twelve and knows of nothing in its own situation relative to the situations of the other stores that would justify its low standing, it will proceed to look for ways and means to improve its relative standing by the time of the next report. Similarly, the store with the highest markup will "fight" to retain its pre-eminence. The figure exchange promotes a healthy rivalry among noncompeting stores without leading them to aim at unsuitable so-called standard or typical figures.

Merchandise Planning and Open-to-Buy

The merchandise plan. An analysis of the profit and loss statement is logically followed by formal planning of future operations. This takes two forms: merchandise planning and expense planning. Merchandise planning includes the factors that enter into gross margin: specifically, sales, stocks, purchases, markups, and markdowns. Expense planning includes a breakdown of the various expenses.

Merchandise planning generally takes the form of a six months' merchandise plan (see Figure 25, Chapter 19). First, sales are planned for the season and then broken down to months. Second, markdowns are similarly planned. Third, stocks are planned for the first of each month and for the end of the season. Fourth, purchases for each month are derived from the sale, markdown, and stock figures. And fifth, markup is planned for the season and for each month. The details of such planning activities are explained in later chapters.

Planned purchases. The planned purchases for each month are derived by adding to the planned closing stock for a month (which is also the planned opening stock for the following month) both the planned sales and the planned markdowns, and subtracting the planned (or actual) opening stock. For example, the following figures may be planned:

	February	*March*
Sales	$15,000	$20,000
Markdowns	1,000	1,500
Stock BOM,[7] at retail	30,000	35,000

The desired stock at the end of February ($35,000) is added to the February sales of $15,000 and the February markdowns of $1,000, giving $51,000; this is the total stock required during the month. From this is subtracted the stock on the first of the month, $30,000, leaving $21,000 to bring into stock during the month; this is the planned retail purchase figure, sometimes called "planned receipts." These planned purchases are for delivery during the month.

The correctness of this planned retail purchase figure of $21,000 can be proved. If the merchant adds the $21,000 to his beginning inventory of $30,000, he will have $51,000 of merchandise available to sell. Of this, he actually sells $15,000 and takes reductions of $1,000, leaving $35,000 to constitute his closing inventory. The closing inventory of this amount is exactly the planned amount.

Open-to-buy. The open-to-buy is the difference between the planned purchases for a period and the commitments already made. Continuing the above example: on January 1, orders for February delivery totaling $10,000 at retail may be outstanding. Thus, on January 1, the open-to-buy for February is $21,000 minus $10,000, or $11,000.

Again, when February 1 arrives, additional orders placed in January for February delivery may result in a total outstanding order for February of $15,000. The open-to-buy for February (computed on February 1) is $21,000 minus $15,000, or $6,000 at retail.

The open-to-buy may be recalculated at any time during the month and is commonly computed weekly. For example, during the first week in February, goods retailing for $8,000 may be received and on February 8, $9,000 may be on order for delivery before the end of the month. The total commitments for February, then (computed on February 8), are $8,000, the receipts, plus $9,000, the outstanding orders, or $17,000. Since the planned purchases for February are $21,000, the O.T.B. for the balance of February is $21,000 minus $17,000 or $4,000. In practice, adjustments may have to be made in the planned purchases if actual sales or markdowns are varying materially from the original plan.

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[7] BOM means "beginning-of-the-month."

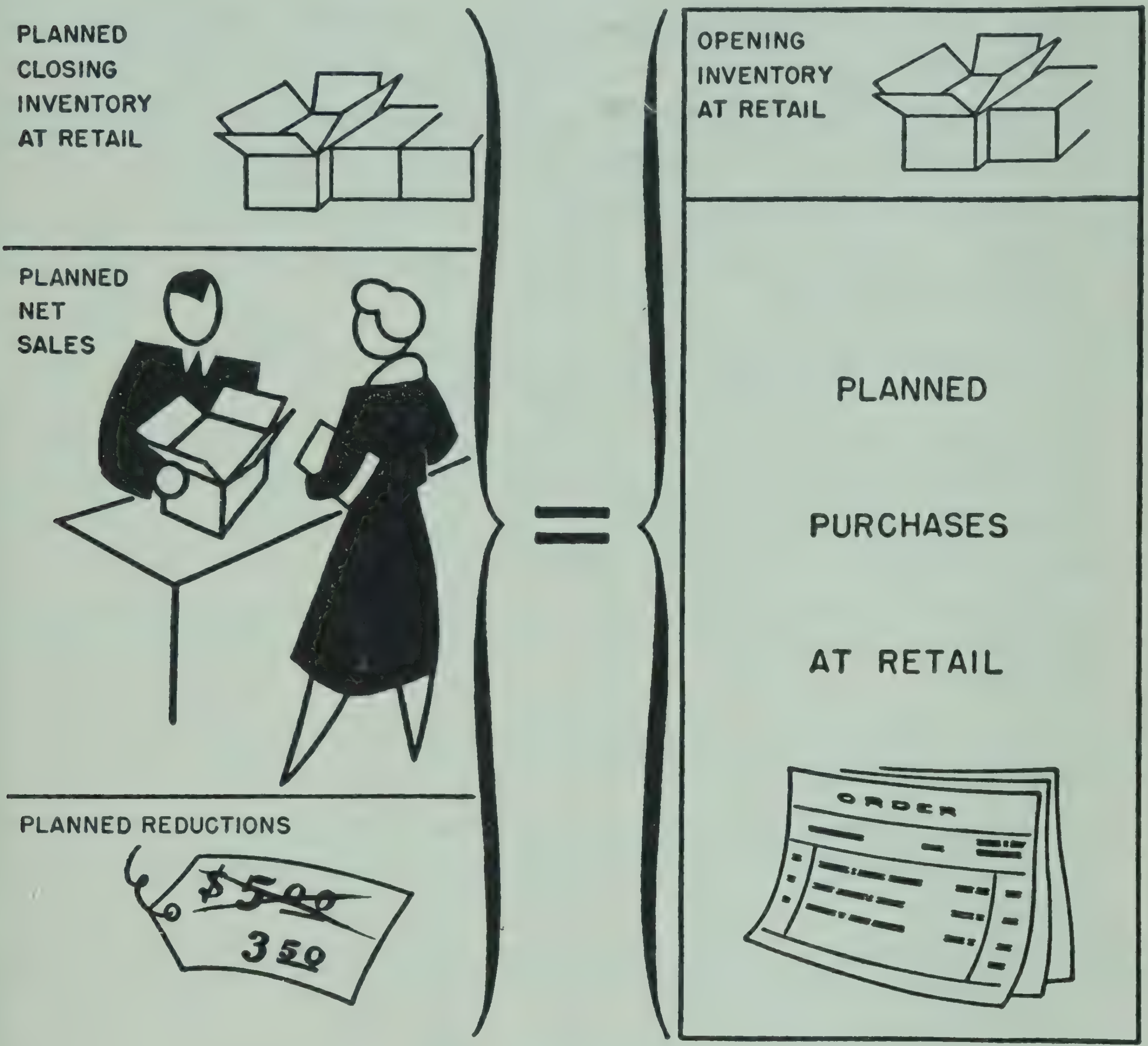
PLANNED CLOSING INVENTORY AT RETAIL
PLANNED NET SALES
PLANNED REDUCTIONS
$500
350
=
OPENING INVENTORY AT RETAIL
PLANNED PURCHASES AT RETAIL
ORDER

FIGURE 6.

The entire subject of merchandise planning and open-to-buy is treated more fully in Part Four, Chapters 19 through 21.

REVIEW QUESTIONS

1. What are the three sets of factors that largely determine a store's profit?
2. What are the two component parts of *dollar sales*?
3. What is the triple relationship among dollar sales, transactions, and average sale?
4. Explain how relative changes in any one of these three factors may be determined if the relative changes in the other two are known.
5. Why do dollar sales alone frequently hide maladjustments?
6. What are the two major ways to increase dollar sales and how may each of these be achieved?
7. Why is there a growing tendency to compare profit factors with transactions rather than simply with dollar sales?
8. Of the five trends in department stores: dollar sales, transactions, average sale, consumer prices, and expenses per transaction, which has risen most rapidly since 1939? Which has changed the least? Which has got out of line during the postwar period?
9. What factor causes the difference that exists between original markup and maintained markup? What three elements are included in this factor?
10. Why are the percentages of original and maintained markup not directly comparable?
11. Distinguish between adjusting the *cost of merchandise sold* for cash discounts and workroom costs and adjusting the *maintained markup* for these factors.
12. What are four ways to increase the gross margin ratio? How may each of these be carried out?
13. Distinguish between *variable* and *fixed* expenses.
14. Explain the leverage influence of fixed expenses on profits as sales change.
15. What are seven ways to compare profits?
16. Why are the profit elements in the report on page 63 arranged differently from the way they are arranged in the operating statement in the previous chapter?
17. What are the two ways of making outside comparisons?
18. What is the MOR report? In this report, what is meant by *typical* and by *top* figures?
19. In what retailing fields are operating results compiled annually?
20. What are some of the limitations of outside standards of comparison?

21. Are averages necessary in the case of private interchange of figures? What statistical device may be used instead?
22. What is meant by a merchandise plan? What are the major elements planned?
23. How are purchase plans devised?
24. What is the open-to-buy and how is it computed?
25. How often is open-to-buy computed?

PART TWO

Price is the central problem in economic theory, and, along with *sales* and *expenses,* it bears a central position in the merchants' search for profit. This section presents, first, the techniques involved in establishing markup and, then, considers the policies having to do with the pricing and re-pricing of goods.

PRICING

GANDHI PEACE FOUNDATION
BANGALORE CENTRE,
GANDHI BHAVAN
Kumara Park (East), BANGALORE-1

5

How to Determine Markup

Elements in Initial Markup

The woman who pays $5.00 for a new fall hat knows, if she stops to think, that it must have cost the store less than $5.00. If she is reasonably familiar with the expenses involved in running a store and the losses that have to be taken on hats that fail to sell, she may estimate the cost at approximately $3.00. The difference between the cost and the original retail price of merchandise (the $2.00 in the example) is technically known as the initial markup. In the aggregate, the markup must be sufficient to cover the following items:

1. The expenses of the store or department.
   a. Direct expenses, such as expenses of handling the article and selling it.
   b. A share of the store or department overhead (joint or indirect expenses).
2. A possible price reduction that may be taken before the goods are sold.
3. A profit.

For example, a store expecting to sell $65,000 worth of millinery at cost may have expenses of $30,000 and estimate markdowns at $10,000. With a $5,000 profit goal, the goods should be marked to sell at $110,000.

It is neither common nor desirable, however, to require that the markup on every item allow a profit over and above direct and indirect expenses and probable price reductions. Custom, competition, and desirability of goods to customers fix prices often above or below a mathematical price based on costs. This problem will be treated at length in later chapters.

Markup as a Percentage of Retail

Reasons for the retail basis. The dollar markup, the difference between cost [1] and retail, may be expressed for comparative purposes as a percentage either of the cost or of the retail. For example, if an article costs 60 cents and is retailed at $1.00, the markup of 40 cents is 66⅔ per cent of cost and 40 per cent of retail. Likewise, if the total purchases at cost are $10,000 and the total at retail is $15,000, the purchase markup is 50 per cent of cost and 33⅓ per cent of retail. In the interests of uniformity, it is desirable to agree on either the cost or the retail basis for the markup percentage. In exchanging merchandising data among stores, it would be confusing if two stores with like ratios of markup reported them on different bases—one as 33⅓ per cent of cost and the other as 25 per cent of retail. One basis or the other should always be used in order to insure fair comparisons between departments and between stores.

The retail basis has been generally accepted as the more desirable of the two for the following reasons:

1. The percentage of retail is nearly always less than the percentage of cost. The casual reader who notes that stores get a markup of 50 per cent on their goods (based on cost) may judge this to be exorbitant because of lack of knowledge of retail expenses. If the figure is reported as 33⅓ per cent (based on retail), however, the reasonableness of the markup is less likely to be challenged by representatives of the public.

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[1] For discussion for technical meaning of "cost," see page 89.

Since in many stores the net profit approaches the vanishing point, there is no just cause for the cry of profiteering.

2. The use of the retail percentage channels the retailer's thinking along retail lines, rather than along cost lines. He tends to do his planning in terms of retail price lines and retail stocks and thus can keep better in tune with customer demand, which is a demand for retail, not cost, values.

Two Bases for Markup

A merchant purchased some aprons for $15.75 a dozen to fit into his $1.95 retail price line and wanted to determine what markup he would be getting. He figured it two ways as follows:

$1.95 × 12 = $23.40 Total retail
15.75 Cost
$ 7.65 Markup

$7.65 ÷ $23.40 = 32.7% markup per cent on retail
$7.65 ÷ $15.75 = 48.6% markup per cent on cost

3. Net sales have generally and logically been used as a basis for expressing expense figures, and it is desirable to have markup figures as nearly comparable as possible. Were the markup expressed as 33⅓ per cent of the cost of purchases and the expenses as 25 per cent of sales, it would not be obvious whether a profit were being earned. The markup would have to be converted into a percentage of retail (25 per cent) or the expenses into a percentage of cost (33⅓ per cent) to determine that there would be no profit even if the goods should sell without any markdowns. The basing of expenses on sales is preferable because sales are always available for comparison.

The danger of failing to make correct percentage comparisons is evidenced by the following experience. A hardware merchant was in the habit of adding 50 per cent of the cost to the cost prices of merchandise to determine his retail prices. This he regarded as a markup of 50 per cent. At the end of each year, he observed that his expenses were about 25 per cent of his sales. He assumed these two figures to be comparable and thought that there was a large margin between cost plus expenses, and selling price. Actually his markup on retail was only 33⅓ per cent, and, after markdowns, it probably did not exceed 30 per cent. This misinterpretation led the dealer to decide to cut his markup in order to stimulate volume. He proceeded to add about one third to his cost in the belief that he still had an adequate margin above his expenses. Actually his markup rate just equalled his expense rate, with no allowance for markdowns. The sales volume increased considerably under the stimulus of low prices, but the merchant found that he was losing money, while formerly he had made money. It was not until he called in a merchandising expert that he realized the fundamental difficulty: his markup, expressed on cost, was too low to cover his expenses and markdowns.

Applying the markup percentage of retail. With a knowledge of his initial markup percentage on retail, a merchant must be able: (1) to compute his retail when his cost is known, (2) to compute his cost when his retail is known, and (3) to compute both when his dollar markup is known. Such computation is based on the following markup equation:

$$\text{Cost} + \text{Markup} = \text{Retail, or } C + M = R$$

This equation may also be written as follows:

$$\begin{aligned} \text{Retail} - \text{Markup} &= \text{Cost.} \\ \text{Retail} - \text{Cost} \quad &= \text{Markup.} \end{aligned}$$

Since all three factors in the equations may be expressed either in dollars or in percentage of retail a good method of solution is to write the appropriate equation and to insert the dollars above and the per cents below and then solve.[2] For example, the cost is $6 and the markup 40 per cent of retail;

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[2] Some prefer an algebraic solution:

Problem: Cost: $6, Markup: 40 per cent of retail. Find retail.
Solution: Let x = Retail.

find retail. Since the markup is given as a percentage of retail, the retail must be 100 per cent.

Dollars 6
Equation .... C + M = R
Percentages .... (60) 40 100

$$60\% = \$6$$

$$1\% = \frac{\$6}{60} = \$.10$$

$$100\% = \$.10 \times 100 = \$10$$

Likewise, the retail may be \$20 and the markup 35 per cent of retail; find cost:

Dollars 20
Equation .... Cost + Markup = Retail
Percentages ...... (65) 35 100

Since 100% = \$20, Cost = 65% of \$20 = \$13

Again, the dollar markup may be \$4 and the percentage markup 40 per cent of retail:

Dollars 4
Equation .... C + M = R
Percentages .... (60) 40 100

$$40\% = \$4$$

$$1\% = \frac{\$4}{40} = \$.10$$

$$R = 100\% = \$10$$

$$C = R - M = \$10 - \$4 = \$6.$$

The great frequency with which markup is figured in stores suggests the need for short-cut methods. From the above calculations, it will be observed that the retail may be found quickly by dividing the cost by the complement of the markup percentage (100 per cent — Markup per cent):

$$R = \frac{C}{100\% - M\%}$$

Since Retail — Markup = Cost

$$x - .40x = \$6$$

$$.60\,x = \$6$$

$$x = \frac{\$6}{.60} = \$10.$$

Applying the Markup Percentage

A merchant was offered a line of floor lamps for \$12 each. His planned markup for the season was 40 per cent. He figured the normal retail price of each lamp as follows, from the equation Cost + Markup = Retail:

$$\begin{array}{ll} \text{Let} & 100\% = \text{Retail} \\ & \underline{40\%} = \text{Markup} \\ & 60\% = \text{Cost} \\ & 60\% = \$12 \end{array}$$

$$\text{Therefore, } 100\% \text{ (the retail)} = \frac{\$12}{.60} = \$20.$$

He decided to retail the lamps at \$19.95 since he had other lamps at this price and since it was psychologically more attractive to customers than \$20.

In like manner, the cost may be found by multiplying the retail by the complement of the markup percentage:

$$C = R \times (100\% - M\%)$$

And the retail may be found by dividing the dollar markup by the markup percentage:

$$R = \frac{\$\ M}{M\ \%}$$

These three relationships are fundamental, and every retailer should drill until he can solve for cost and retail by making one division or one multiplication, as the case may be. He should form the habit of thinking *complement* whenever he has a markup to apply. Thus, the *complement* of 40 is 60 and of 25 it is 75. Since the complement is less than 1 or 100 per cent, dividing by it gives a larger quotient; this is the calculation to apply when solving for the larger retail. Multiplying by the complement gives a smaller product, the calculation to apply when solving for the smaller cost. The following are some examples of computations that are frequently made.

Examples of Calculation—Markup on Retail

Given	*To Find*	*Procedure*
a. Cost and retail $1.00 $1.50	Markup per cent	Divide Markup by Retail Divide 50¢ by $1.50
b. Retail and markup per cent $2.00 40	Cost	Multiply Retail by (100% – M.U. %) Multiply $2.00 by (100% – 40%)
c. Cost and markup $5.00 $3.00	Markup per cent	Cost + Markup = Retail $5.00 + $3.00 = $8.00 Markup divided by Retail = M.U. % $3.00 divided by $8.00 = M.U. %
d. Markup and markup per cent $1.05 35	Retail	Divide Markup by Markup % and multiply by 100 Divide $1.05 by 35 and multiply by 100
e. Cost and markup per cent $1.50 40	Retail	Divide Cost by (100% – M.U. %) and multiply by 100 Divide $1.50 by (100 – 40) and multiply by 100
f. Retail purchases and markup per cent $10,000 35	Cost purchases	Multiply Retail Purchases by (100% – M.U. %) $10,000 multiplied by (100% – 35%)
g. Cost purchases and markup per cent $6,600 40	Retail purchases	Divide cost purchases by (100% – M.U. %) $6,600 divided by (100 — 40) multiplied by 100

Where the markup is in round numbers, the calculation of retail when cost is known may be somewhat simplified as follows:

To secure a 20 per cent markup, divide cost by 8.
To obtain a 25 per cent markup, divide cost by 7.5.
To obtain a 30 per cent markup, divide cost by 7.
To secure a 33⅓ per cent markup, divide cost by 2 and multiply by 3.
To secure a 40 per cent markup, divide cost by 6.
To secure a 50 per cent markup, divide cost by 5.

After each division, the decimal point must be moved one place to the right. The resulting figure will be the normal selling price. For example, an article may cost $2.80, and a selling price based on a 30 per cent markup may be desired. Divide $2.80 by 7, move the decimal point one place to the right, and arrive at a selling price of $4.

Markup as a Percentage of Cost

Reasons for the cost basis. In spite of the logic of the retail basis for expressing markup, some merchants, particularly small ones, still adhere to the cost basis for the following reasons: [3]

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[3] Some stores prefer the cost basis because it allows direct comparison of initial markup, reductions, and maintained markup. Thus:

	Cost	*Retail*	*Markup on Cost*	*Markup on Retail*
Purchases	$60,000	$100,000	66⅔%	40%
Reductions		10,000	16⅔%	11%
Sales		$90,000		
Maintained markup ...		$30,000	50%	33⅓%

With markup and reductions both based on cost, it is possible to subtract the reductions from the initial or purchase markup to find the maintained markup. When markup is based on retail, subtraction will not give the correct answer since initial markup is based on original retail whereas reductions and maintained markup are based on sales. With the retail basis, it is possible to find the maintained markup when initial markup and reduction percentages are known, but the solution is more complicated; a consideration of it will be deferred to Chapter 7.

1. Custom. The cost basis is the older one and is accordingly better understood by men of the "old school."

2. Many people find it easier to multiply and add than to divide and make use of the markup complement. Thus, if the cost is $12 and the markup on retail is 33⅓ per cent, it is necessary to divide $12 by the complement of the markup, 66⅔ per cent, to find the retail of $18. If the cost basis were used, the markup would be 50 per cent, which could be added to the cost: 50 per cent of 12 is $6, and $6 plus $12 is $18.

Applying the markup percentage of cost. As in the case of markup on retail, the user of markup on cost must be able: (1) to compute his retail when his cost is known, (2) to compute his cost when his retail is known, and (3) to compute both when his dollar markup is known. The basic equation is again used, with the dollars above and the per cents below. For example, if the cost is $1.00 and the markup 50 per cent of cost, find retail:

Since the markup is given as a percentage of cost, 100 per cent must be the cost—

Dollars $1
Equation ....$C + M = R$
Percentages ....100 + 50 (150)

$$100\% = \$1$$

$$150\% \text{ of Cost } (\$1) = \text{Retail or } \$1.50$$

The retail may be $1.50 and the markup 50 per cent of cost, find cost:

Dollars $1.50
Equation ....$C + M = R$
Percentages ....100 + 50 (150)

$$150\% \text{ of } C = \$1.50$$

$$1\% \text{ of Cost} = \frac{\$1.50}{150} = \$.01$$

$$100\% = 100 \times \$.01 = \$1.00 = \text{Cost}$$

The markup may be \$5 and the markup on cost 25 per cent, find cost and retail:

Dollars \$5
Equation ....C + M = R
Percentages ....100 + 25 (125)

$$25\% \text{ of Cost} = \$5$$

$$1\% \text{ of Cost} = \frac{\$5.00}{25} = \$.20$$

$$100\% = 100 \times \$.20 = \$20$$

$$\text{Retail} = \text{Cost} + \text{Markup} = \$20 + \$5 = \$25$$

From the above calculations, it will be observed that retail may be found by multiplying the cost by the *supplement* of the markup (100 per cent plus the markup):

$$R = C \text{ x } (100\% + M\%)$$

The cost may be found by dividing the retail by the *supplement* of the markup:

$$C = \frac{R}{100\% + M\%}.$$

And, the cost may be found by dividing the dollar markup by the percentage markup:

$$C = \frac{\$M}{M\%}$$

The box on page 87, analogous to that on page 83, gives examples of calculations commonly made when markup is on cost.

It should be observed that in solving for either cost or retail, when markup is based on cost, it is the *supplement* that is used, rather than the *complement,* which is used when markup is based on retail. Since the supplement is more than 1 or 100 per cent, multiplying by it gives a larger product, and this is the calculation to apply when solving for the larger retail. Dividing by the supplement gives a smaller quotient, the calculation to apply when solving for the lower cost.

Examples of Calculation—Markup on Cost

Given	*To Find*	*Procedure*
a. Cost and retail $1.00 $1.50	Markup per cent	Divide markup by cost. Divide 50¢ by $1.00
b. Retail and markup per cent $2.00 40%	Cost	Divide the retail by (100% + Markup %). Divide $2.00 by 140%.
c. Retail and markup $5.00 $2.00	Markup per cent	Retail — Markup = Cost $5.00 — $2.00 = $3.00 Markup divided by cost = M.U. % $2.00 divided by $3.00 = M.U. %
d. Markup and markup per cent $1.05 35%	Cost	Divide Markup by Markup % and multiply by 100. Divide $1.05 by 35 and multiply by 100.
e. Cost and markup per cent $1.50 40%	Retail	Multiply cost by (100% + M.U. %). Multiply $1.50 by 140%.
f. Retail purchases and markup per cent $10,000 35%	Cost purchases	Divide Retail purchases by (100% + M.U. %). Divide $10,000 by 135% (1.35).
g. Cost purchases and markup per cent $6,600 40%	Retail purchases	Multiply cost purchases by (100% + M.U. %). Multiply $6,600 by 140% (1.40).

Conversion. Markup percentage on cost may be converted to markup percentage on retail, even though the dollar quantities involved are not available. For example, a markup of 60 per cent on cost may be converted to a retail basis as follows:

$$\begin{aligned} 100\% &= \text{cost.} \\ 60\% &= \text{markup.} \\ \hline 160\% &= \text{retail.} \\ \frac{60\%}{160\%} &= 37\tfrac{1}{2}\% = \text{markup on retail.} \end{aligned}$$

Conversely, a markup of 40 per cent on retail may be converted to a cost basis as follows:

$$\begin{aligned} 100\% &= \text{retail.} \\ 40\% &= \text{markup.} \\ \hline 60\% &= \text{cost.} \\ \frac{40\%}{60\%} &= 66\tfrac{2}{3}\% = \text{markup on cost.} \end{aligned}$$

The box below shows the differences of the two bases. It is interesting to note that, with low markups, there is very little difference. The two move farther and farther apart, however, as dollar markups increase until the theoretical maximum is reached; this is 100 per cent at retail and infinity (∞) at cost, since 100 per cent (the markup) divided by 0 per cent (the cost) equals infinity.

Markup Equivalents

Markup on Cost	*Markup on Retail*
11.1%	10%
25. %	20%
33⅓%	25%
60%	37½%
66⅔%	40%
100%	50%
150%	60%
300%	75%
400%	80%
900%	90%
Infinity	100%

In all such calculations the essential points to bear in mind are (1) that 100 per cent should be set equal to cost whenever markup is given as a percentage of cost, and (2) that 100 per cent should be set equal to retail whenever markup is given as a percentage of retail.

Meaning of Cost in Markup Computations

In the discussion thus far, it has been assumed that the cost figure to be subtracted from the retail to determine markup is a specific, clearly indicated figure. In practice this is not so. The hat costing $3 is marked $5, but it does not follow that $3 is the true cost of the goods to the store.

A buyer may purchase 200 hats in the market at a billed price of $3 each, a total of $600. From this figure, he is allowed to deduct a cash discount of $30, but he may have to pay transportation charges to the seller of $10. Is his cost, for markup purposes, $600, $570, $580, or $610? If his retail price is $1,000, is his purchase markup $400, $430, $420, or $390? The usual basis is the *billed cost* plus transportation charges paid by the store. In this instance, the cost would be $610 and the markup $390. In defining *billed cost,* however, trade and quantity discounts are not included. For example, goods bought at a list price of $600 with a trade discount of 25 per cent and a cash discount of 2 per cent would have a billed cost of $450. To this is added transportation charges, to figure the cost for markup purposes.

Transportation is regarded as an element in merchandise costs because the cost of goods to a merchant is the cost at his store, not the cost in the vendor's place of business. In some instances, it is treated as an operating expense, but this is contrary to standard practice. It is important that the buyer should include transportation in the total cost of each invoice when he sets his retail prices rather than lose sight of transportation by including it with departmental expenses that bear no specific relation to each article purchased.

Some stores take out the cash discount from the billed price and use the true cost figure in computing markup on inventory and purchases, but it is the more common practice to use the inflated billed figure, making a correction for cash discounts in the "cost of merchandise sold" figure. Customarily, then, the first three of the four markups listed on page 92 are based on billed cost figures with transportation charges added. Gross margin, however, is based upon actual cost, since the cost of merchandise sold is reduced by the amount of the cash discount before it is computed.

When initial markup is based on actual cost rather than on billed figures, it is sometimes called the "over-all markup." For example:

	Billed Cost	*Net Cost*	*Retail*
Inventory at beginning	$2,000	$1,960	$3,000
Purchases	4,000	3,864	7,000
Total	$6,000	$5,824	$10,000

The markup figure, as usually computed, is $4,000, but based on net cost, it (the over-all markup) would be greater, $4,176. At first sight, it would seem preferable to use actual costs in the computation, but there are four reasons why the billed-cost method generally prevails:

1. Customary office procedure in which invoices are charged in at billed cost and cash discounts computed only when payments are made.

2. Lack of assurance that cash discounts available will be realized. Some bills may not be paid on time, in which case the billed cost becomes the actual cost.

3. Deliberate desire to inflate costs so as to allow a "cushion" to protect profits in case of contingencies. Some merchants like to be guided by overstated costs so that, should they fail to reach plans made, they may still show a profit in the form of cash discounts earned. Should plans be based on actual costs, failure to realize them would result in a loss. The use of billed figures is one of the methods of setting up a profit reserve.

4. Desire to obtain slightly higher selling prices by having buyers regard the billed price as the true cost. For example, a buyer may purchase an article at a billed cost of $1.00; when

the discount is deducted, the cost is 94 cents. If it is marked on a basis of $1.00 cost, he may mark it $1.50, but if it is marked on a basis of 94 cents, the buyer may erroneously think that a retail price of $1.40 is adequate.

5. Fear of errors in making historical comparisons, if a current change were to be made to a net basis. For example, a store or department may have an established record of a 40 per cent markup, with cash discounts averaging 5 per cent of billed cost. If the goods formerly charged in at a 60 cent cost were now charged in at 57 cents (5 per cent less), the markup would jump to 43 per cent assuming no change in retail prices. This jump might cause confusion in the analysis of trends: a buyer who for years has had 40 per cent as his objective might be under pressure to increase his volume. Suddenly, he finds he is getting a 43 per cent markup and he may forget or not know about the change in procedure instituted in the office. As a result, he might cut the retail price of his merchandise in order to stimulate volume. Thus, he would reduce his "over-all" markup below former levels and thus jeopardize his profits.

Initial Versus Maintained Markups

Even though the retail is the generally accepted basis for the markup percentage, it should be noted, as explained in Chapter 4, that there are two kinds of retail: purchase retails and sales retails. When goods are given a retail price at the time of purchase, the markup percentage is based on the retail price of the goods that the buyer hopes to realize. But price reductions may be necessary before the goods are sold, so that the store realizes a lower markup. This maintained markup, as it is called, is the difference between the actual sales and the gross cost of the goods sold, expressed as a percentage of the sales. Initial retails are generally higher than retail prices at which goods are ultimately sold, since some depreciation in the form of markdowns will probably occur before sale. For example, a stock of goods may cost $600 and be marked $1,000. The initial markup is $400 or 40 per cent of retail, but the goods may be sold eventually for a total of $900. The maintained markup is $300 or 33⅓ per cent. Because of these two types of retail, care must be taken in comparing initial with maintained markups. Even though both are on retail bases, they are not percentages of the same thing. The box below shows four ways of markup expression.

Kinds of Markup

The bookkeeper in a clothing store provided the owner-manager with the following figures reflecting a month's operation:

	Cost	*Retail*
Beginning inventory	$13,000	$20,000
Purchases	25,000	40,000
Sales	18,200	28,000
Cash discounts earned	800	
Alteration costs	520	

The merchant figured four markup percentages as follows:

(1) Markup on month's purchases: $40,000 — $25,000 = $15,000
$15,000 ÷ $40,000 = 37½%

(2) Initial markup

	Cost	*Retail*
Beginning inventory	$13,000	$20,000
Purchases	25,000	40,000
Total	$38,000	$60,000

$60,000 — $38,000 = $22,000
$22,000 ÷ $60,000 = 36⅔%

(3) Maintained markup = $28,000 - $18,200 = $9,800
$9,800 ÷ $28,000 = 35%

(4) Gross margin = $9,800 + $800 — $520 = $10,080
$10,080 ÷ $28,000 = 36%

The following relation between gross margin and maintained markup (explained in Chapter 4) should be reviewed

1. Gross margin = Maintained markup + Cash discounts — Alteration costs
2. Maintained markup = Gross margin — Cash discounts + Alteration costs.

In spite of this technical distinction between the two terms, they are used often as synonyms. Gross margin is also designated as *gross merchandise margin, gross profit,* or simply *margin.* The use of the term gross margin rather than gross profit is preferable because most of the margin represents expense and very little of it profit. *Gross expense* would be a truer name for it than gross profit.

The two markups that loom largest in retail discussions are the initial markup and the gross margin. The first represents the adequacy of a merchant's asking price, and the second the adequacy of the realized price. The difference is the loss due to price reductions and alterations, less discounts.

REVIEW QUESTIONS

1. Markup should be planned high enough to cover what items?
2. Why is the retail basis for expressing markup preferred to the cost basis?
3. What is the *markup equation*?
4. How may a merchant compute his retail price when the cost and the markup percentage of retail are known?
5. How may a merchant compute cost when his retail price and markup percentage of retail are known?
6. How may a merchant compute his cost when the necessary dollar markup and markup percentage of retail are known?
7. What is meant by the *complement* of the markup? Explain its use in quick calculation.
8. Why do some retail merchants express markup as a percentage of cost?
9. How may a merchant compute his retail price when his cost price and markup percentage of cost are known?
10. How may a merchant compute his cost price when his retail price and markup percentage of cost are known?
11. How may a merchant compute his retail price when the necessary dollar markup and markup percentage of cost are known?
12. What is meant by the *supplement* of the markup? Explain its use in quick calculation.
13. What is meant by markup *conversion*?

14. Explain how to change (*a*) a markup percentage of cost to a markup percentage of retail; (*b*) a markup percentage of retail to a markup percentage of cost.
15. Give the equivalents on cost of the following markups on retail: 5%, 25%, 40%, 50%, 80%, 100%.
16. How should *cost* be defined for purposes of markup calculation?
17. What is meant by the "over-all markup"?
18. Why is it standard practice not to subtract cash discounts before calculating markup? Which of the five reasons are particularly important?
19. Distinguish between markup based on original retail and markup based on sales.
20. With references to the box on page 92, what four kinds of markup percentage can be calculated for the same operation?
21. Why do some manufacturers figure the markup their dealers get on the basis of cost rather than retail?
22. Many merchandising figures, such as markdowns and profit, are based on net sales. Why is not markup computed on the basis of sales?

6

How to Average Markup

Balancing High and Low Markups

Merchants do not habitually apply predetermined markup percentages to all cost prices in establishing retail prices. As already indicated, goods must be priced so that they will sell in the face of competition; moreover, exclusive goods may often be sold readily at higher-than-average markups. In the marking of individual items, the percentage of markup is generally the derived figure. A buyer knows the cost to be $1.00, decides that he can sell the article at $1.50, and a markup percentage on retail of 33⅓ results; it is not planned. But the markup percentage on the aggregate purchases over a period is planned to cover expenses and price reductions and to yield a profit. The buyer realizes on some articles a markup lower than the average percentage desired and on other articles a higher markup.

Procedure involved. An example of the problem of averaging is as follows: a buyer plans to spend $6,000 for merchandise on which he should realize a markup of 40 per cent of retail. Among the articles he buys, he purchases 1,000 units costing $1.00 each, which he finds it necessary to retail at $1.20 each, a much lower markup than the aggregate desired. If a 40 per cent markup is to be realized on the aggregate purchases, the balance must carry a markup higher than 40 per cent. The exact markup necessary is computed as follows:

	Cost	Retail	Per Cent of Markup
Total planned purchases	$6,000	$10,000	40
Purchases made	1,000	1,200	16⅔
Purchases to be made	$5,000	$8,800	43.18

$$\$8{,}800 - \$5{,}000 = \$3{,}800$$

and

$$\frac{3{,}800}{8{,}800} = 43.18\%$$

On the balance of his purchases the buyer will attempt to realize a markup of over 43 per cent. The opposite situation may occur where the buyer has purchased $5,000 worth of goods out of $6,000 planned and had realized a markup of 43.18 per cent on the purchases thus far. He may wish to procure $1,000 worth of merchandise as a leader on which a very low markup will be realized. If he gets a markup of only 16⅔ per cent on this $1,000 purchase, the desired average will still be attained. Thus, the buyer is enabled to hold a special promotion at a bargain price. Buyers are always on the lookout for items on which a long markup is possible, so as to set up a reserve for necessarily low markups.

Common error. An error commonly made is to attempt to average markup percentages of retail, weighting them by cost quantities. In the example, the total markup of 40 per cent would be weighted erroneously by the 6 ($6,000), giving 240 per cent. The markup of 16⅔ per cent would be weighted by 1($1,000) and subtracted, giving 223⅓ per cent as the weighted markup on 5/6 of the stock. Dividing by 5 gives 44.67 per cent, over 1½ per cent larger than the correct figure. The difficulty is that markup percentages of retail should be weighted only by retail quantities, in this instance by 10 and 1.2 rather than by 6 and 1.

Seasonal adjustment. Some buyers attempt to balance their high-purchase and low-purchase markups each day or each week, so as to adhere to the average planned, but it is sometimes necessary to strike a balance only over the entire season. For example, a buyer may plan an initial markup of 40 per cent for a spring season, February through July. On June 1, when two

An Example of Averaging Markup

A buyer came to Philadelphia with an appropriation of $12,000 for drapery materials and a planned markup on his purchases of 40 per cent of retail. After his first three days in the market, he added up his orders and found that he had, thus far, ordered $8,000 worth of goods at cost. Since he had already planned the retail price per yard at which each pattern was to sell, he was able to compute the total retail of his purchases to date to be $14,000. He was then able to compute the markup he needed on the remainder of his purchases as follows:

Retail purchases = $12,000 ÷ .60 = $20,000

	Cost	*Retail*
Total planned purchases	$12,000	$20,000
Purchases to date	8,000	14,000
Balance to buy	$ 4,000	$ 6,000
Markup required	$ 6,000 — $4,000 =	$ 2,000
Markup per cent	$ 2,000 ÷ $6,000 =	33⅓%

Since he had obtained a markup of better than 40 per cent thus far, he was able to price his last $4,000 purchases at low, very attractive prices and still achieve his markup goal.

thirds of the season is past, the actual markup to date may be computed as follows:

	Cost	*Retail*	*Markup Per Cent*
Inventory, February 1	$ 6,200	$10,000	38
Purchases, Feb. 1–May 31	18,200	30,000	39⅓
Total merchandise handled	$24,400	$40,000	39

The buyer may be planning to make purchases at cost during June and July of $8,000. He may compute his desired purchase markup for this two-month period as follows:

	Cost	*Retail*	*Markup Per Cent*
Total merchandise handled to date	$24,400	$40,000	
Planned purchases June & July	8,000	(14,000)	
Total	$32,400	($54,000)	40

\$32,400 ÷ .60 = \$54,000, the total retail value of the season's planned merchandise handled.

Since, of this total, \$40,000 has already been obtained, planned purchases must have a retail value of \$14,000. Since the cost is \$8,000, the dollar markup desired is \$6,000, or 42.86 per cent.

Many stores plan purchases at retail rather than at cost. For example, the buyer may plan to buy \$15,000 worth of goods at retail in June and July. The question is: How much can he pay for them in order to realize a 40 per cent initial markup for the season?

	Cost	*Retail*	*Markup Per Cent*
Total merchandise handled to date	\$24,400	\$40,000	
Planned purchases	(8,600)	\$15,000	
Total	(\$33,000)	\$55,000	40

\$55,000 × .60 = \$33,000, the aggregate cost. \$33,000 — \$24,400 = \$8,600, the desired cost of the planned purchases. \$15,000 — \$8,600 = \$6,400, the purchase markup, or $42\frac{2}{3}$ per cent.

Varying monthly markup plans. To achieve a predetermined markup percentage over a season is one of the merchants' major objectives. If he fails, his profits will be adversely affected unless he can sell more goods than planned or reduce expenses or markdown losses. Since attainable markups vary not only on different merchandise but sometimes with the season of the year, an even more elaborate calculation is sometimes required.

For example, one buyer of coats had a markup goal for the six-month spring season of 42 per cent. The markup on his opening retail inventory of \$18,000 was 41 per cent. During February, he achieved a purchase markup of 44 per cent on \$5,000 worth of retail purchases; during March a purchase markup of 43 per cent on \$7,000 worth of retail purchases; and in April 42½ per cent on \$8,000 worth. He was directed to take part in a big special sale to take place in June with the goods coming into stock in May. In order to present very good values to the public, the buyer decided to aim at a markup of only 35 per cent on his May purchases, which would total $9,000 at retail. His planned retail purchases for the entire spring season were $40,000 and the question was: What markup should he attempt to obtain during the other two months (June and July), so as to end up with an aggregate markup of 42 per cent? He solved the problem first by estimating the total merchandise handled for the season, reducing it to cost, and subtracting the opening inventory at cost.

	Cost	*Retail*	*Markup Per Cent*
Opening inventory	($10,620)	$18,000	41
Planned season purchases	($23,020)	40,000	
Total merchandise handled (plan)	($33,640)	$58,000	42

Thus, he established that his $40,000 planned retail purchases should cost no more than $23,020.

Second, he accumulated his cost and retail purchases to date plus the plan for the month of May.

	Cost	*Retail*	*Markup Per Cent*
February (actual)	$ 2,800	$ 5,000	44
March (actual)	3,990	7,000	43
April (actual)	4,600	8,000	42.5
May (estimated)	5,850	9,000	35
Total, 4 months	$17,240	$29,000	

The next step was to subtract the four-month total from the plan for the six months:

	Cost	*Retail*
Planned season purchases	$23,020	$40,000
Four-month total	17,240	29,000
Planned purchases for June and July	$ 5,780	$11,000

Thus, the markup needed in June and July was $5,220 ($11,000 — $5,780) and the markup per cent 47.5 ($5,220 ÷ $11,000).

This figure is so much higher than the markup achieved in any month so far, as to seem virtually unattainable. Accordingly, consideration should be given to revising the May planned markup upward; otherwise the season's objective of 42 per cent is hardly to be achieved.

If the best the buyer thinks he can do in June and July is to average 44 per cent, the average necessary markup for May may be computed as follows:

	Cost	*Retail*	*Markup Per Cent*
February (actual)	$ 2,800	$ 5,000	44
March (actual)	3,990	7,000	43
April (actual)	4,600	8,000	42.5
June and July (estimated)	6,160	11,000	44
Total 5 months	$17,550	$31,000	
Planned season total	23,020	40,000	
May	$ 5,470	$ 9,000	

Markup in May: $9,000 — $5,470 = $3,530

Markup % required = $3,530 ÷ $9,000 = 39.2%.

Whether this markup will be low enough, in view of market conditions, to provide good values for the special sale is something the buyer will have to decide.

Averaging Markups on Price Lines

One cost and two retails. The manipulation of markup frequently involves (1) buying different items at the same cost to retail at different prices and (2) buying items at different cost prices to retail at the same price.

There are two reasons for pricing different goods that cost the same amount at different retail prices. One is that goods of like wholesale price are not all of the same value, even when bought from the same manufacturer. Some manufacturers make up goods in different materials and with different labor cost and put them all out at the same price, making a larger profit on some styles than on others. If a buyer detects these differences in value due to differences in materials, workmanship, and style and believes that the observant customer could detect them too, he may mark the better merchandise at a higher price.

A second reason for having different retail prices for a single cost is in order to achieve an average markup necessary for a profit. For example, as a result of competition and custom, it may be that most $2 cost merchandise in some line retails for $3 giving a markup of 33⅓ per cent. But the markup required for a reasonable profit may be 35 per cent. Rather than drop the $3 price and mark all the goods at a higher price, it may be wiser to mark that portion of the goods that are least competitive at $3.25. Such adjustments are frequently necessary when a manufacturer raises his wholesale price and the retailer is loathe to revise his etablished retail price. See the exhibit in the box on page 102 for an example.

Procedure for one cost and two retails. The proportions in which to price a lot of goods costing the same may be calculated as follows:

A buyer of handbags may have to average a 35 per cent purchase markup but may find it necessary to retail at $3.95 some goods for which he pays $2.75 each, a markup of only 30.4 per cent. He may find it possible, however, to retail some of the best $2.75 items at $5.00, a markup of 45 per cent. As already indicated, these may be of greater value to the customer, even though sold by the manufacturer at the same price, for they may have fashion features that make them more desirable or may have actually cost the vendor more to produce. The immediate problem is to determine in what proportions to mark the goods costing $2.75.

The average retail price requires a markup of 35 per cent. It is found, therefore, as $2.75/.65 or $4.23. This average retail may then be compared with the planned retails of $3.95 and $5.00 as follows:

	$3.95 Price	*$5.00 Price*
Average retail required	**$4.23**	**$4.23**
Actual retail planned	3.95	5.00
Under in markup	$ .28	
Over in markup		$ .77

The buyer "loses" 28 cents on every \$3.95 item, but "gains" 77 cents on every \$5.00 item. In order that unders may just equal overs, he must mark 77 at \$3.95 (where he loses 28 cents) to every 28 items at \$5.00 (where he gains 77 cents).[1] Since 77 items plus 28 items equals 105, the answer in percentage is 73 per cent at \$3.95 to 27 per cent at \$5.00. If the buyer were

Two Retails and One Cost

A women's suit merchant had a successful line of suits at \$45 retail that had cost him \$27.50. Due to rising labor and material costs, the manufacturers were forced to raise the cost price to \$30.00. The buyer did not think it wise to drop the \$45.00 price which was well established. But he needed a 39 per cent markup. Accordingly, he decided to introduce a new price of \$52.50 and to mark the more exclusive styles and those made of the better materials at this point. He then calculated what proportion of his purchases to price at \$45 and \$52.50 as follows:

$\$30 \div (1.00 - .39) = \$30 \div .61 = \$49.12$, the average retail price required

	At \$45.00	*At \$52.50*
Average retail	**\$49.12**	**49.12**
Actual retail required	**45.00**	**52.50**
Under in markup	**\$4.12**	
Over in markup		**\$3.38**

Since a loss of \$4.12 on 338 items equals a gain of \$3.38 on 412 items:

338 at \$45

and

412 at \$52.50

750 = Total

$\frac{338}{750} = 45\%$ at \$45 and $\frac{412}{750} = 55\%$ at \$52.50.

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[1] 28 cents × 77 items = 77 cents × 28 items.

to buy a dozen or less, this ratio could be approximated at 3 to 1.[2]

Two costs and one retail. It is more common to set up one retail price for goods that cost different amounts than to set different prices for goods that cost the same. No store would find it wise to carry as many different retail prices as there are wholesale cost prices. The small variations would confuse the

Two Costs and One Retail

To stock his $3.00 retail price line, a merchant bought at two wholesale prices: $22.50 a dozen and $25.00 a dozen. In order to achieve a markup on his purchases of 35%, he calculated the proportions in which to buy as follows:

Retail price per dozen: $3 × 12 = $36
Average necessary cost per dozen = $36 × (1.00 — .35) = $23.40

Average cost	**$23.40**	**$23.40**
Actual costs	**22.50**	**25.00**
Over in markup	**$ .90**	
Under in markup		**$ 1.60**

160 at $22.50 or 64%
to
90 at $25.00 or 36%
250 100%

---

[2] An algebraic solution of the same problem is as follows:

Calculated for every 100 items retailed at $3.95 and with the average retail desired $4.23:

Quantity	*Retail Price*	*Total Retail*
100	$3.95	395
x	5.00	5x
100 + x	$4.23	423 + 4.23x

$$395 + 5x = 423 + 4.23x,$$
$$.77x = 28,$$
$$x = \frac{28}{.77} = 36.4.$$

For every 100 items retailed at $3.95, 36 should be retailed at $5.00. To state the ratio another way: Of every 100 items purchased, 73 should be retailed at $3.95 and 27 at $5.00 in order to realize the desired average of 35 per cent.

customer, delay closing sales, and necessitate a very large stock assortment. It is better to set a range of cost prices for a single price line. For example, instead of deciding that merchandise for the $12.50 price line must cost $8.12½ (when a 35 per cent markup is needed), it may be decided that all goods costing between $7.00 and $9.00 may be retailed at $12.50. If within this range there are two major wholesale prices—$7.75 and $8.75—the question arises as to the proportions in which to buy $7.75 and $8.75 merchandise in order to average a 35 per cent markup.

Mathematics of two costs and one retail. As in the case of one cost and two retails, there are two ways to solve the problem: the ratio one and the algebraic one. The ratio solution is the simpler.

65 per cent of $12.50 = $8.125, the average cost price the buyer can pay.

Average cost required	**$8.125**	**$8.125**
Actual costs	**7.75**	**8.75**
Over in markup	**$.375**	
Under in markup		**$.625**

The buyer should purchase more at $7.75 than at $8.75 to offset the larger loss at the higher price. He should buy 625 at $7.75 to 375 at $8.75. This is the same ratio as 62.5 to 37.5, or 5 to 3.[3] In practice, approximations are satisfactory. For example, if 5 dresses are to be purchased, 3 could be bought at $7.75 and 2 at $8.75.

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[3] The algebraic solution is as follows:

Quantity	*Cost*	*Weighted*
100	$7.75	775
x	8.75	8.75x
100 + x	$8.125 (Av.)	812.5 + 8.125x

$$775 + 8.75x = 812.5 + 8.125x$$
$$.625x = 37.5$$
$$625x = 37{,}500$$
$$x = 60$$

For every 100 items bought for $7.75, 60 may be bought at $8.75. This is in the ratio of 5 to 3, or 62.5% to 37.5%.

Such mathematical analysis does not answer the question as to whether all the 5 articles costing $7.75 will sell readily against the 3 costing $8.75. If most of the $7.75 merchandise has to be marked down from $12.50 to move it, nothing will be gained by stocking in the planned proportions.

Three retails and one cost. The same sort of analysis may be applied when there are three retail prices and one cost, provided the number of articles salable at one of the three retail prices is predetermined. For example, a buyer may be offered a job lot of 100 garments at a flat price of $5 each. Upon going through the lot, he may decide that 10 are in such poor condition as to be worth at retail no more than $4 each. The rest of the lot might sell for $7.95, for $9.95, or some at one price and some at the other. Since the buyer must average a 40 per cent mark up on the lot, he decides on the last of the three possibilities and wishes to compute how many of the 90 to price at $7.95 and how many at $9.95:

Total cost (100 × $5)	$500
Total retail necessary at a 40 per cent markup ($500 ÷ .60)	833
Retail on the 10 poor items worth $4 each	40
Retail required on 90 good items	$793
Average retail required ($793 ÷ 90)	$8.81

Average retail	$8.81	8.81
Planned retails	7.95	9.95
Under in markup	$ .86	
Over in markup		$1.14

The 90 should be retailed in the ratio of 86 at $9.95 to 114 at $7.95. Since these two figures total 200, this is 43 per cent at $9.95 and 57 per cent at $7.95.

Thus, the 100 garments should be retailed as follows:

10 at $4	$ 40
51 at $7.95	405
39 at $9.95	388
Total	$833

It should be observed that the arithmetic gives no clue as to whether or not 39 of the garments would sell at $9.95 with the rest marked at $7.95. However, since the styles offered in a job lot vary, it is possible that approximately 39 may be found that are appreciably better than the rest. The arithmetic indicates what pricing is necessary to yield a desired average; it does not indicate whether such pricing is competitively possible.

Technical Appendix—Correct and Incorrect Methods of Averaging

For the student or merchant who is interested in the statistical problems of weighting involved in markup averaging, the following analysis is presented.

When varying markups are placed on different portions of a stock purchased, care must be exercised to avoid a simple average of different markup percentages to find the markup on the entire stock. For example, $1,200 cost purchases may be distributed as follows:

Cost	*Markup Per Cent on Retail*	*Weighted Markup (cost weights)*	*Retail*	*Markup*
$ 500	50	$250	$1,000	$500
300	25	75	400	100
400	20	80	500	100
$1,200	3)95	12)405	$1,900	$700
Wrong average:	31⅔%	33¾%		

Correct average: 36.8% (700 ÷ 1,900)

The markup percentages must not be added and divided by their number. Neither is it permissible to weight the markup percentages on retail by the cost stocks, for the retail figures are in different proportions than the cost figures. Rather, the dollar markups must be summated and expressed as a percentage of the total retail. This is equivalent to weighting each markup percentage by the *retail* stocks at each price—in this case 1,000, 400, and 500. Cost stocks may be used as weights only when markups are expressed as percentages of cost.

Averaging of a number of markups correctly is important when a buyer has purchased goods at different markups and wishes to determine what markup to take on the balance of his purchases. For example, on one fifth of his retail purchases a buyer may have obtained a markup of 40 per cent, on another fifth a markup of 35 per cent, and on two fifths a markup of 30 per cent. He may desire a markup on his entire purchases of 33⅓ per cent. The question is what markup percentages should he attempt to obtain on the remaining fifth of his purchases. This may be computed as follows:

Portion of Retail Stock	*Markup Per Cent*	*Weighted Markup*	
1/5	40	.08	
1/5	35	.07	
2/5	30	.12	.27
1/5	x	1/5x	
5/5	(Average) 33⅓	.33⅓	
	Weighted markup on 4/5 of stock	.27	

Weighted markup on remaining 1/5 of stock: $1/5x = .06\frac{1}{3}$

$x = 31\frac{2}{3}$ per cent, the markup per cent necessary on the remaining stock.

Should the stock proportions be expressed in terms of cost, each portion of stock would have to be divided by the complement of the markup per cent rather than be multiplied by the markup percentage itself, as follows:

Proportions of Cost Stock	*Markup on Retail (in decimals)*	*Complement of Markup (in decimals)*	*Weighted Markup (stock ÷ complement of markup)*	
1/5 (.20)	.40	.60	.3333	
1/5 (.20)	.35	.65	.3076	
2/5 (.40)	.30	.70	.5714	1.2123
1/5 (.20)	x	1 − x	.20/(1 − x)	
5/5 (1.00)	.33⅓	.66⅔	1.5000	
		Sum of weighted markup on 4/5 of the stock	1.2123	
		Weighted markup on remaining stock	.2877	

$$\frac{.20}{1-x} = .2877$$

$$.20 = .2877 - .2877x$$

$$.2877x = .0877$$

$$x = \frac{.0877}{.2877} = 30.4,$$ markup per cent on retail for last fifth of stock.

The cost stock proportions may be used as weights for markups expressed as percentages of cost:

Proportions of Cost Stock	*Markup on Retail*	*Markup on Cost*	*Weighted Markup (Stock × Markup on Cost)*	
1/5 (.20)	.40	.6667	.13333	
1/5 (.20)	.35	.5385	.10770	
2/5 (.40)	.30	.4286	.17144	.41247
1/5 (.20)	x	$x/(1.00-x)$	$.20\,x/(1.00-x)$	
1 (1.00)	.33⅓	.500	.50000	
	Weighted markup on 4/5 of the stock		.41247	
	Weighted markup on remaining stock		.08753	

$$\frac{.20\,x}{1.00-x} = .08753$$

$$.20\,x = .08753 - .08753\,x$$

$$.28753\,x = .08753$$

$$x = \frac{8753}{28753} = 30.4\%$$

Such manipulation of high and low markups so as to realize a needed average and yet price merchandise in view of competitive and seasonal requirements is an important function in successful merchandising. The marking of individual items is an art that must operate within limits set scientifically to realize an aggregate markup that will yield a profit.

REVIEW QUESTIONS

1. Why is the percentage of markup on individual items generally a derived rather than a planned figure?
2. Explain the procedure in averaging the markup on purchases made to date with that on purchases still to be made in order to achieve a predetermined average.
3. Why is it wrong to average markup percentages of retail by cost quantities?
4. What is the procedure in determining the needed markup during the remainder of a season? Why does the markup on the opening inventory have to be considered?
5. What limitations are there to the practice of setting one markup goal for the season and a lower one for a sale month?
6. Show, by means of an example, how the minimum markup for a sale may be calculated if (*a*) the season's goal, (*b*) the markup to date and (*c*) the highest practicable markup for non-sale months are known.

7. What are three variations to the problem of averaging markup by price lines?

8. What are two reasons, within a single merchandise line, for pricing differently goods that cost the same?

9. Explain why dollar and cent differences between a planned average retail price desired and two actual retail prices can be treated as the quantities to purchase.

10. What must be the relationship between the two actual retail prices and the planned average retail price in order to calculate buying proportions?

11. Compare the algebraic and the ratio methods of calculating buying proportions for one cost and two retails.

12. Why are goods costing different amounts in the same merchandise line frequently priced at a single retail?

13. Explain the ratio method of determining the buying proportions for two costs and one retail. Explain the algebraic method.

14. Explain the mathematics of determining buying proportions where three price lines are involved.

15. If the items in a job lot are to put into three lines, what must be known about one price to calculate buying proportions?

16. What are two incorrect ways of averaging retail markup percentages when cost quantities are given? What is the correct way?

17. How may the markup on a portion of stock be determined where the markup on other portions and on the whole is known?

18. What are two ways of weighting markup when cost proportions of stock (rather than retail proportions) are known? Which is the simpler?

7

How to Plan Markup and Retail Price

Planning Initial Markup

In a previous chapter, it was indicated that initial markup [1] should be adequate to cover the factors of expense, reductions, and profits.

For example, a merchant may estimate that to handle a quantity of merchandise costing $6,000, he will have to incur expenses of $3,000, suffer markdowns and shortages of $700, and be able to realize a profit of $300. The merchandise, then, must be offered for sale at an original retail price of $10,000 ($6,000 + $3,000 + $700 + $300), in order to assure that the profit goal of $300 will be earned. Therefore he must set an initial markup of $4,000 on the lot.

In practice, expenses, markdowns, and the other factors involved are seldom available for each purchase and it becomes necessary to plan the initial markup *percentage* required on all of the merchandise handled during a period, such as a six-months' season.

Steps in planning. The standard method [2] of computing the necessary markup percentage is as follows:

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[1] Initial markup is also defined as "cumulative markon."

[2] Where cash discounts on purchases and alteration and workroom costs are involved, these factors also have to be considered in the calculation, as explained later in this chapter.

1. The total sales for the coming year or season are forecasted.
2. An estimate is made of the expenses and price reductions[3] that will be necessary to reach the sales plan.
3. A profit goal is set.
4. The estimated expenses, price reductions, and profit are added together to find the dollar markup necessary over the cost of merchandise sold.
5. The original retail price of the goods to be sold is determined by adding to the planned sales the planned price reductions.
6. The dollar markup as computed (step 4) is divided by the original retail price (step 5).

For example, sales may be planned at $100,000 for the year, with probable expenses of $30,000, price reductions of $10,000, and a profit goal of $5,000. The necessary markup, then, is the sum of the last three figures, or $45,000. Next, the price reductions of $10,000 are added to the sales of $100,000 to determine the total retail at which goods must first be put into stock. This is $110,000. Finally, $45,000 is divided by $110,000 to determine the necessary markup as a percentage of initial retail price. This is 40.9 per cent.

As an equation,

$$\text{Initial Markup \%} = \frac{\text{Expenses} + \text{Profits} + \text{Reductions}}{\text{Sales} + \text{Reductions}}$$

In the example,

$$\text{Initial Markup \%} = \frac{\$30{,}000 + \$5{,}000 + \$10{,}000}{\$100{,}000 + \$10{,}000} = \frac{\$45{,}000}{\$110{,}000}$$

$$= 40.9\%$$

When expenses, reductions, and profits are planned as percentages of sales rather than in dollars, the equation may be used equally well. In this case, sales become 100 per cent in the equation. For example, expenses may average 25 per cent of sales, the profit goal 2 per cent, and price reductions 8 per cent. Converting these per cents to decimals:

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[3] Price reductions include markdowns, stock shortages and discounts to employees and customers.

$$\text{Initial Markup} = \frac{.25 + .02 + .08}{1.00 + .08} = \frac{.35}{1.08} = 32.4\%.$$

By means of this equation it is possible for a merchant to determine what percentage of markup he must realize on his purchases if he is to cover all expenses and the necessary markdowns and still make a profit. It does not follow, however, that he will always plan this markup for his store or department or attempt to realize it on each purchase. Sales possibilities may make it necessary to deviate considerably in actual pricing, but the formula does provide a useful guide in showing what markup is necessary on an average to realize a wanted profit.

Effect of alteration and workroom costs on the markup equation. In Chapters 2 and 3, we found that alteration and workroom costs[4] and cash discounts earned on purchases are elements in the cost of merchandise sold. Accordingly, the markup equation must allow for them when they exist. Obviously, markup must cover net alteration and workroom costs as well as expenses; therefore, they must be added to the numerator of the equation. They have no effect on the denominator, since they must be paid for out of net sales income and do not represent an addition to sales.

Effect of cash discounts earned on the markup equation. Cash discounts earned, on the other hand, are *subtracted* from the numerator of the markup equation for the following reason: They represent additional income received from suppliers, which increases the profits without requiring a markup for the purpose. Another way to explain the handling of the cash discounts is to note that the profit figure in the equation represents all the profit, including what is earned in the form of cash discounts, but that the markup percentage is calculated over the billed cost, not over the actual cost. The markup, then, does not have to provide for all of the profit but only for the difference between the total profit and the profit earned from the cash discounts. For example, goods having a billed cost of $60,000 may involve expenses of $30,000, reductions of $5,000, and cash discounts of $3,000. A profit of $8,000 may also be sought on this merchandise. It is necessary to add the expenses and the reductions but not all of the profit to the $60,000, since $3,000 of the profit is coming from the discounts. Only $5,000 of the $8,000 profit goal need be added, along with $30,000 for expense and $5,000 for reductions. Thus, the original retail at which the goods should be stocked is $100,000 and the markup is $40,000 or 40 per cent.

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[4] As already indicated, the net alteration and workroom costs represent the difference between the total cost of operating workrooms (that finish goods at the time of sale) and the charges made customers for the work.

The complete equation. Where alteration costs and cash discounts exist, then, the markup equation appears as follows, with the elements in the *reduction* figure spelled out in full:

$$\text{Initial Markup \%} = \frac{\text{Expenses} + \text{Profits} + \text{Alteration Costs} - \text{Cash discounts} + \text{Markdowns} + \text{Stock shortages} + \text{Employee and customer discounts}}{\text{Sales} + \text{Markdowns} + \text{Stock shortages} + \text{Employee and customer discounts}}$$

The above expression may be simplified, since:

$$\text{Expenses} + \text{Profit} = \text{Gross margin, and since:}$$
$$\text{Markdowns} + \text{Stock Shortages} + \text{Employee and customer discounts} = \text{Reductions}$$

$$\text{Therefore: Initial Markup \%} = \frac{\text{Gross Margin} + \text{Alteration costs} - \text{Cash discounts} + \text{Reductions}}{\text{Sales} + \text{Reductions}}$$

A further simplification is possible, since:

$$\text{Gross margin} + \text{Alteration Costs} - \text{Cash discounts} = \text{Maintained Markup}$$ [5]

$$\text{Therefore: Initial Markup \%} = \frac{\text{Maintained Markup} + \text{Reductions}}{\text{Sales} + \text{Reductions}}$$

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[5] This relationship was developed in Chapter 3, on page 38.

When Maintained Markup and Reductions are expressed in percentage of sales rather than in dollars, the equation becomes:

$$\text{Initial markup } \% = \frac{\text{Maintained Markup } \% + \text{Reduction } \%}{100\% + \text{Reduction } \%}.$$

This is the basic equation for planning.

The application of this equation may be illustrated as follows: Expenses 28 per cent, Profit 7 per cent, Cash discounts 3 per cent, Alteration costs 2 per cent, Reductions 5 per cent,

Find: (a) Gross margin
(b) Maintained markup
(c) Initial markup

Solution:

$$\text{Gross margin} = \text{Expenses} + \text{Profits} = 28\% + 7\% = 35\%$$

$$\text{Maintained markup} = \text{Gross Margin} - \text{Cash discounts} + \text{Alteration costs} = 35\% - 3\% + 2\% = 34\%$$

$$\text{Initial Markup } \% = \frac{\text{Maintained Markup } \% + \text{Reductions } \%}{100\% + \text{Reductions}}$$

$$= \frac{34\% + 5\%}{100\% + 5\%} = \frac{39\%}{105\%} = 37.1\%$$

Planning Initial Markup—An Example

The proprietor of a men's shop had made the following estimates for his fall season business:

Sales	\$80,000
Reductions	4,000
Expenses	25,000
Profit goal	8,000
Cash discounts on purchases	2,000
Alteration costs	1,120

With this information, he computed his necessary markup on purchases for the season (including his opening inventory) as follows:

$$\text{Needed Markup } \% = \frac{\text{Expenses} + \text{Profits} + \text{Reductions} + \text{Alteration Costs} - \text{Cash Discounts on Purchases}}{\text{Sales} + \text{Reductions}}$$

$$\frac{\$25{,}000 + 8{,}000 + 4{,}000 + 1{,}120 - 2{,}000}{\$80{,}000 + 4{,}000} = \frac{\$36{,}120}{\$84{,}000} = 43\%$$

Solving for Profit When Markup is Known

In practice, the markup equation is often used in reverse to find what maintained markup, what gross margin, and what profit will be achieved with a predetermined markup percentage. If all but one factor in the initial markup equation is known, it is easy to solve for the unknown one. This is frequently the profit. A merchant or department buyer must frequently test what profit he can hope to achieve if he aims at an initial markup percentage that seems reasonable to him in view of past experience and the competitive situation.

Thus, a buyer may have been operating at a 40 per cent markup and wish to continue; his probable reductions this year may be 8 per cent and his expenses 30 per cent. There may be no cash discounts or alteration costs. He wishes to determine what profit he may hope to realize. This may be done by applying the basic equation:

$$\text{Initial Markup \%} = \frac{\text{Maintained Markup \%} + \text{Reductions \%}}{100\% + \text{Reductions \%}}$$

Applying this method, calling the maintained markup M, and making use of decimals rather than percentages,

$$\frac{.40}{1} = \frac{\text{M} + .08}{1.00 + .08}$$

and $.40 \times 1.08 = \text{M} + .08 \quad \text{M} = .432 - .08 = .352$, or 35.2%.

Since no cash discounts or alteration costs are involved, the maintained markup is the same as the gross margin. Therefore, the gross margin minus expenses (35.2 per cent — 30 per cent) equals 5.2 per cent, the profit.

Another useful and common method of finding maintained markup is explained in the technical appendix to this chapter.

Final Initial Markup Plans

It must not be concluded that the markup finally set for a classification of goods, for a department, or for a store is simply the result of a mathematical calculation. The demand side, the markup at which goods will sell readily, is fully as important as the cost side. If the markup finally set is less than the mathematical markup, an attempt may be made to operate on a lower expense rate and to reduce markdowns. The originally planned profit figure may also suffer, but every effort should be made to protect it. At times, however, a department or merchandise classification may be operated at a markup that yields an apparent loss. Sometimes the situation is only temporary, owing to competitive conditions or a business depression, but sometimes a department or classification is operated for many years at a markup that yields no apparent profit because the gross margin realized, after reductions, is sufficient to cover direct expenses of the department and contribute something toward the joint expenses of running the store. Expenses such as rent, depreciation, interest, and taxes would often continue even if a store closed its doors. Moreover, there are merchants who prefer to earn little or no interest on their investment and to draw less from the business than they could earn as salaries elsewhere, because of their enjoyment of entrepreneurship. They would rather operate permanently at a technical loss (when interest and adequate remuneration for their services are counted as expenses) than work for another.

Why losing lines are continued. In the case of a selling department, or classification, markup is often insufficient to net a profit, and yet the department may continue to be operated under one or more of the following circumstances:

1. If the lines involved are essential for the completeness of the store. Good will and the patronage of other lines would be lost if the ones in question were discontinued. For example, women would expect to find boys' clothing in a depart-

ment store and would resent the inability to buy clothing for their boys in the place they buy girls' clothing and men's furnishings.

2. If the insufficient markup represents a temporary condition that may be rectified as the seasons progress, as outside conditions improve, or as management is improved.
3. If the markup is sufficient to cover losses from markdowns and the direct expenses of the department and to contribute to the indirect expenses. For example, a department may have a stock costing \$10,000 and retailing at \$15,000. Because of depreciation, in the form of markdowns and shortages, only \$14,000 may be realized for the goods. The direct expenses that could be eliminated, were the department discontinued, may be \$3,000, and the indirect expenses may be \$2,000. The latter represents a share of the joint expenses for the store as a whole and would continue whether or not the department were operated. The markup of \$5,000 on the stock is obviously insufficient to cover markdowns and shortages of \$1,000, direct expenses of \$3,000, and indirect expenses of \$2,000. Not only is there nothing left for profit, but there is a \$1,000 operating loss. But at least the department brings in sufficient income to cover direct expenses and to contribute \$1,000 to the joint expenses of the store. Were the department discontinued, this \$1,000 would not be received, the indirect expenses would continue, and the store profits would be \$1,000 smaller than with the "losing" department in operation. When charged with what seems to be a fair share of joint expense, the department is unprofitable, but from the broader viewpoint, it is profitable, since it shoulders some of the indirect expense burden. Unless the management sees a more productive use (a) for the space occupied by the department, (b) for the merchandise investment, or (c) for the personnel investment, the department will be continued, even where there is no prospect for improvement.

Limitations of the markup percentage as a guide to profits. Although the markup percentage is a useful index of the ability of a buyer to obtain a markup high enough to cover expenses and reductions and still have a profit, there are times when it is misleading. For example, a buyer may realize an initial markup of 40 per cent on goods to be sold during a period: $10,000 at retail and $6,000 at cost. This $4,000 markup should cover expenses and reductions. If expenses are $3,000, and reductions $700, the 40 per cent markup allows a $300 profit margin:

Expenses	$3,000
Reductions	700
Total	3,700
Initial markup	4,000
Profit margin	$ 300

Were sales to fall off, however, a 40 per cent markup on purchases might prove wholly inadequate to yield a profit. For example, a 25 per cent decline in sales would reduce the original price of the goods to be sold to $7,500. With the same markup percentage, only $3,000 rather than $4,000 would be available for the three factors enumerated. If prices are declining, it may not be possible to lower reductions (largely markdowns), and expenses as a general rule cannot be reduced as rapidly as the decline in sales. The situation would then be somewhat as follows:

Expenses—down 12½% (½ rate of sales decline)	$2,625
Reductions—same	700
Total	3,325
Initial markup	3,000
Profit margin	—$325 (loss)

The 40 per cent markup that had proved a satisfactory guide to profits now yields a loss, owing to declining volume and to the fixed nature of many items of expense.

During periods of declining sales, more attention should be given to the dollar markup and not simply to the percentage, for a larger percentage of markup may be necessary to make a profit. Conversely, as sales increase, the dollar markup may be maintained at an adequate level even though the percentage of markup declines. Expenses are paid in dollars, not in percentages, and the dollar figure should not be lost track of in the endeavor to adhere to fixed percentage relationships.

Pricing Individual Items

It has already been indicated that it is not wise to attempt to obtain the planned departmental or store-wide markup percentage on all purchases, nor would it be practicable to attempt to forecast the expenses, reductions, alteration costs, and cash discounts associated with each item purchased, nor to aim at a specific profit on each one. Some items have to be marked higher than average and others lower, but by means of the averaging methods already explained in the preceding chapter, the aggregate actual markup should be kept close to the percentage planned.

Conditions justifying a high markup. The conditions under which a buyer is usually able to obtain a higher markup than the average required are as follows:

1. When the risk of price reduction is unusually great. If the danger of obsolescence, deterioration, breakage, and theft is greater than that associated with most of the merchandise carried, the markup taken should normally be high to protect profit.

2. When the expenses of handling and storage are likely to be abnormally great, relative to the price of the goods.
    a. Goods may be bulky and require delivery to customers, or they may require more expensive packing than usual.
    b. Goods may have a very low stock turnover, necessitating charging them rent for a considerably longer period than is true of most goods carried. For example, it may take two months to sell out most purchases whereas the goods in question, occupying equal space, may take

four months. Normally, they should have a higher markup to offset the doubling of the rent chargeable to them.

3. When cash discounts on the merchandise in question are lower than the average.
4. When alteration and workroom costs are abnormally high.
5. When the goods are exclusive and not subject to direct competition. The merchant takes advantage of such opportunities to sell at a higher markup and thus offset the lower than average markups he frequently takes.
6. When the price that customers expect to pay is well above the normal markup. For example, a merchant may procure a lot of goods, normally costing $4.80, at a bargain price of $3 and his normal markup may be 40 per cent. To mark the goods $5 rather than $8 may make customers suspicious as to their quality. A price of $6.95 or more may be necessary to convince customers of the genuine value.
7. When a retail price line has been established and the goods cost somewhat less than the average cost price that the merchant can afford in order to resell at this retail price. Thus, the markup of the department may be 40 per cent and the established price $25. On an average, then, the merchant can pay $15 ($25 x .60), but he may set up a buying range of $13.50 to $16.50, pricing any goods bought within this cost range at $25. Thus, any article costing between $13.50 and $15.00 will enjoy a higher than average markup.

Conditions justifying a low markup. Goods often warrant a lower than average markup in situations the reverse of those just explained:

1. When the danger of price reduction is very small, as in the case of much staple merchandise.
2. When the expenses of handling are relatively small:
   a. No packaging or delivery needed.
   b. Very high turnover, resulting in low rent per unit.

Pricing a High-Priced Article

In a fur store with a planned 35 per cent markup, the merchant purchased some mink coats at $2,000 each. The average-priced coat in his store was $400 retail with expenses per unit as follows: $60 handling expense, $30 occupancy expense, and $10 store indirect expense. The mink coats were expected to sell more slowly than the rest of the stock—in fact, at a turnover one-half as great. It was also estimated that each sale of a mink coat would cost about twice as much to handle as the rest of the merchandise because of the extra selling time and effort required. Markdowns on the average sale averaged $25 a unit but on expensive mink coats about fifteen times as much. There was a great *demand* on the part of customers for mink, but few could afford to pay more than $2,750. The question was whether the buyer could afford to sell them at that price. He reasoned it out as follows:

Normal Unit of Sale		*Mink Coat*	
Cost ($400 × 65%)	$260	Cost	$2,000
Handling expense	60	Handling expense	120
Occupancy expense	30	Occupancy expense	60
Indirect expense	10	Indirect expense	10
Markdowns	25	Markdowns	375
Total cost	$385	Total Cost	$2,565
Retail	400	Retail	2,750
Profit	$ 15	Profit	$ 185

He concluded that if he looked to each transaction for his *average* indirect expense per unit of $10, he could make $185 profit by selling mink coats at $2,750, a markup of only 27.3 per cent. Even were he to charge fifteen times as much indirect expense ($150) to the mink as to the typical transaction, he would still make a larger dollar profit than on his typical sale. Of course, if he could sell the coats in reasonable quantity at a regular markup—at $3,077—there would be no point in the price cut. Since many more would sell at $2,750 than at $3,000 plus, however, he decided to take the low markup.

c. High unit of sale. This point needs explanation. A fur coat department may have a markup of 40 per cent and an average sale of $300. Thus, the typical coat costs $180. But $3,000 mink coats may also be carried. The buyer can afford to pay more than $1,800 for these since the expenses of handling them are certainly not ten times as great as the expenses of handling a $300 coat. To cut the markup on the mink coats would be wise, however, only if the increased sales would result in a larger aggregate profit than could be realized at the normal markup. See the example on page 121.

3. When cash discounts are higher than average.

4. When alteration and workroom costs are very small.

5. When the goods are carried by most dealers and therefore are subject to much price competition.

6. When the customary price is lower than the price necessary to yield an average markup. This is a corollary to point 5.

7. When an established retail price provides less than the average markup. This often occurs when the manufacturer sets a resale price under the "fair trade" laws. Conceivably, this contract price may provide a higher than average markup.

8. When the volume possibilities at a lower than average markup will yield a larger dollar profit than could be obtained with an average markup. For example, a millinery store may need a 40.9 per cent markup with estimated sales of $100,000 and reductions of $10,000. Yet, the buyer might pay $4.00 each for a lot of 1,000 hats to sell at $5 provided the sales of the lot will be an *addition* to the $100,000 planned:

	Cost	*Retail*	*Markup*
Planned purchases	$65,000	$110,000	$45,000 (40.9%)
Additional purchases	4,000	5,000	1,000 (20.0%)
Total purchases	$69,000	$115,000	$46,000 (40.0%)
Markdowns (all on originally planned purchases)		10,000	
Sales (all merchandise sold) ...		$105,000	
Cost of sales		69,000	
Gross margin		$ 36,000	

The gross margin figure of $36,000 is $1,000 more than what would have been realized with a markup of 40.9 per cent but with only $100,000 in sales.[8]

The operating profit may not be quite $1,000 larger because of additional expenses of handling the extra sales, but these additional expenses would probably be less than 10 per cent of the additional sales of $5,000. Thus, the low markup percent may increase profits if *extra* volume can be achieved.

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[8] With only regular merchandise, cost of sales would have been $65,000 and gross margin $35,000.

A low markup, where it means increased volume, does not necessitate a higher markup on other goods and may actually lead to a decrease both in the average markup and in the markup on other goods.

Pricing, an art. The pricing of merchandise is an art, not a science. The merchandiser's goal is to obtain not as high a percentage markup as possible, but as high a dollar contribution to joint expenses and profits as is compatible with good will building and repeat trade. For example, a 60 cent cost item retailed for $1.00 (40 per cent markup) may sell at the rate of 10 a week, yielding a gross margin of $4.00. If direct expenses of handling each unit are 5 cents, or 50 cents on the 10, the item will contribute $3.50 a week.

If the merchandiser senses that a price of 90 cents (33⅓ per cent markup) would result in sales of 20 a week, he would earn at this point a total gross margin of 20 times 30 cents or $6. With unit handling expenses of 5 cents or $1.00 for 20, the item would contribute $5 a week; and the 33⅓ per cent markup would be immediately more profitable than the 40 per cent markup. Of course, some other combination of sales volume and markup might prove better yet, and profits may be deliberately sacrificed today in order to assure future patronage. In many instances, however, a high markup percentage will not cut into sales volume materially and yield a higher dollar profit than a normal markup and still build good will. The astute merchant is continually searching to find these *optimum* prices at which markup and volume combine to provide the largest dollar profit. But he often prices somewhat below them, so that customers will be well satisfied and continue to buy.

Because of the difficulty of forecasting volume at different price levels, however, the merchant hesitates to deviate too far from a planned initial markup percentage that gives consideration to his total probable expenses, probable reductions, and normal profit. A further discussion of pricing policy appears in the next chapter.

Technical Appendix—The Maintained Markup Equation

It is frequently desirable to find maintained markups from the following equation:

Maintained markup % = Initial markup % – Reduction % (1 – Initial Markup %).

This is the basic equation for the maintained markup. It signifies that the maintained markup may be found by subtracting the reductions times the complement of the initial markup percentage from the markup percentage.

The derivation of this formula is as follows:

Let I equal the initial markup %, M, the maintained markup %, and R, the reduction %. Using the decimal form:

$$I = \frac{M + R}{1 + R}$$

Multiply both sides by 1 + R:

$$I(1 + R) = M + R$$

Remove the parenthesis:

$$I + IR = M + R$$

Transpose:

$$M = I - R + IR$$

Insert a parenthesis:

$$M = I - R\,(1 - I)$$

Applying this equation to the figures analyzed on page 115.

$$M = .40 - .08\,(1.00 - .40) = .40 - .08\,(.60) = .40 - .048 = .352$$

Subtracting the expenses of 30 per cent, yields 5.2 per cent.

The maintained markup equation may be used when cash discounts and alteration costs are involved. For example, the initial markup is 45 per cent; the reductions, 10 per cent; the cash discounts, 4 per cent; the workroom costs, 1 per cent; and expenses, 36 per cent. Find: (a) Maintained markup; (b) Gross margin; (c) Profit

$$M = .45 - .10\,(1.00 - .45) = .45 - .055 = .395, \text{ or } 39.5\%$$

$$G.\,M. = .395 + .04 - .01 = .425 \text{ or } 42.5\%$$

$$P. = .425 - .36 = .065, \text{ or } 6.5\%$$

Figure 7 makes it possible to read off the maintained markup when initial markup and reductions are known. The dark figures are the reductions as a percentage of sales multiplied by the markup in each case; this is sometimes called the "cost of the reductions."

Estimating Profit from a Predetermined Markup

This year, a stationery store proprietor averaged a markup of 35 per cent and thought he could do the same next year. He planned for next year—expenses of 32 per cent of sales, reductions of 3 per cent, and cash discounts of 2 per cent. He wanted to estimate what percentage of profit he would make if these figures were achieved. He worked it out as follows:

Maintained markup $\% =$ Markup $\% -$ Reductions $(1.00 -$ Markup $\%) = .35 - .03 \times .65 = .35 - .0195 = .3305$

Gross margin $=$ maintained markup $+$ cash discounts $-$ workroom costs $= 33.05\% + 2\% - 0\% = 35.05\%$

Profit $=$ Gross margin $-$ expenses $= 35.05\% - 32\% = 3.05\%$.

The equation $M = I - R(1 - I)$ may be further transposed to express R in terms of the other factors, as follows:

$$\begin{aligned} M &= I - R(1 - I) \\ R(1 - I) &= I - M \\ R &= \frac{I - M}{1 - I} \end{aligned}$$

Thus, the reductions as a percentage of sales may be found by taking the difference between the initial markup and the maintained markup and dividing it by the complement of the initial markup percentage. The difference between the two markups is the "cost of the reductions" and may be converted to retail by dividing by the complement of the initial markup.

Applying this equation to the situation depicted above, where initial markup was 45 per cent and maintained markup 39.5 per cent:

$$R = \frac{.45 - .395}{1.00 - .45} = \frac{.055}{.55} = .10, \text{ or } 10\%$$

% Mark-up on Inventory and Purchases	% OF REDUCTIONS TO SALES												
	3	4	5	6	7	8	9	10	12	14	16	18	20
42	**1.74**	**2.32**	**2.90**	**3.48**	**4.06**	**4.64**	**5.22**	**5.80**	**6.96**	**8.12**	**9.28**	**10.44**	**11.60**
	40.26	39.68	39.10	38.52	37.94	37.36	36.78	36.20	35.04	33.88	32.72	31.56	30.40
41	**1.77**	**2.36**	**2.95**	**3.54**	**4.13**	**4.72**	**5.31**	**5.90**	**7.08**	**8.26**	**9.44**	**10.62**	**11.80**
	39.23	38.64	38.05	37.46	36.87	36.28	35.69	35.10	33.92	32.74	31.56	30.38	29.20
40	**1.80**	**2.40**	**3.00**	**3.60**	**4.20**	**4.80**	**5.40**	**6.00**	**7.20**	**8.40**	**9.60**	**10.80**	**12.00**
	38.20	37.60	37.00	36.40	35.80	35.20	34.60	34.00	32.80	31.60	30.40	29.20	28.00
39	**1.83**	**2.44**	**3.05**	**3.66**	**4.27**	**4.88**	**5.49**	**6.10**	**7.32**	**8.54**	**9.76**	**10.98**	**12.20**
	37.17	36.56	35.95	35.34	34.73	34.12	33.51	32.90	31,68	30.46	29.24	28.02	26.80
38	**1.86**	**2.48**	**3.10**	**3.72**	**4.34**	**4.96**	**5.58**	**6.20**	**7.44**	**8.68**	**9.92**	**11.16**	**12.40**
	36.14	35.52	34.90	34.28	33.66	33.04	32.42	31.80	30.56	29.32	28.08	26.84	25.60
37	**1.89**	**2.52**	**3.15**	**3.78**	**4.41**	**5.04**	**5.67**	**6.30**	**7.56**	**8.82**	**10.08**	**11.34**	**12.60**
	35.11	34.48	33.85	33.22	32.59	31.96	31.33	30.70	29.44	28.18	26.92	25.66	24.40
36	**1.92**	**2.56**	**3.20**	**3.84**	**4.48**	**5.12**	**5.76**	**6.40**	**7.68**	**8.96**	**10.24**	**11.52**	**12.80**
	34.08	33.44	32.80	32.16	31.52	30.88	30.24	29.60	28.32	27.04	25.76	24.48	23.20
35	**1.95**	**2.60**	**3.25**	**3.90**	**4.55**	**5.20**	**5.85**	**6.50**	**7.80**	**9.10**	**10.40**	**11.70**	**13.00**
	33.05	32.40	31.75	31.10	30.45	29.80	29.15	28.50	27.20	25.90	24.60	23.30	22.00
34	**1.98**	**2.64**	**3.30**	**3.96**	**4.62**	**5.28**	**5.94**	**6.60**	**7.92**	**9.24**	**10.56**	**11.88**	**13.20**
	32.02	31.36	30.70	30.04	29.38	28.72	28.06	27.40	26.08	24.76	23.44	22.12	20.80
33	**2.01**	**2.68**	**3.35**	**4.02**	**4.69**	**5.36**	**6.03**	**6.70**	**8.04**	**9.38**	**10.72**	**12.06**	**13.40**
	30.99	30.32	29.65	28.98	28.31	27.64	26.97	26.30	24.96	23.62	22.28	20.94	19.60

FIGURE 7. Effect of Markdowns on Maintained Markup.

Find the initial markup (per cent of markup on inventory and purchases) achieved in the first column and the reductions achieved in the first line across the form. From the reduction figure read down on the form to the line on which the markup appears at the left. The lower figure in this square is the resultant maintained markup. The black figure immediately above it is the reduction per cent times the complement of markup per cent. For example, if the initial markup is 42 per cent and reductions 3 per cent, the maintained markup is 40.26 per cent.

REVIEW QUESTIONS

1. What are the six steps in planning the markup percentage?
2. What is the initial markup equation in its elementary form?
3. How may the initial markup equation be further simplified if the factors involved are stated in per cents?
4. How do alteration and workroom costs enter into the initial markup equation?
5. How do cash discounts earned enter into the initial markup equation?
6. Express the initial markup equation in its full form. Show how it may be shortened in form without any change in essence.
7. How may the initial markup equation be used to solve for profits when initial markup is known?
8. Why do final initial markup plans deviate often from mathematically derived plans?
9. Give three reasons why losing departments are often continued.
10. Explain carefully how a department operating at a "loss" may be contributing to store profit.

11. How do variations in sales from planned figures affect the adequacy of initial markup plans?
12. Under what conditions is it frequently wise to take a higher markup on individual items than the required initial markup of the store or department?
13. Under what conditions is it frequently wise to take a lower markup on individual items than the required initial markup of the store or department?
14. Give an example of how expenses and markdowns attributable to an individual item may be analyzed in planning markup deviations from average.
15. What is the relationship between stock-turn and markup?
16. Why must pricing always be an *art,* rather than a science?
17. What is the modified formula by which the maintained markup percentage may readily be calculated from initial markup percentage and markdowns?
18. How is this formula derived from the basic initial markup equation?
19. How may the reduction percentages be calculated when the initial markup and the maintained markup percentages are known?
20. Is the difference between the initial markup percentage and the maintained markup percentage always less than the reduction percentage? Why?

8

How to Establish Pricing Policies

In the field of economics, the problem of price is the central one. But in this study, there will be no attempt to analyze the forces of supply and demand or the psychology of the buyer and seller. These topics will instead be approached from the standpoint of the merchant who sets asking prices upon the goods he has purchased for resale.

The original retail price should be the outgrowth of two sets of considerations: (1) the customer response at various prices, and (2) the costs of handling and selling various quantities. Customer response, the demand side, depends upon custom, ability, and willingness to spend, good will with its assurance of future spending, and competition. Costs, the supply side, include cost of goods at the store, markdowns and other reductions, expenses, and a net profit (the recompense for risk). The merchant, then, must price his goods both so that they will sell and so that the markup in the aggregate will at least cover his costs.

Usually the balance of the supply and demand factors allows only a narrow margin of profit, except as a store may obtain confined and exclusive merchandise and thus gain something of a monopoly. A good example of this is special parts for particular equipment, such as a car or a sewing machine. Since the replacement of worn parts is essential to the use of the articles as a whole, and since there is little competition in the retail distribution of these parts, they can often be priced high, with no consideration to costs, and still suffer no loss in sale opportunity. The limited yet insistent demand allows a high markup over a long period of time. On the other hand, standardized parts useable on varied equipment are generally sold at competitive prices.

The underlying price policy of a store is an outgrowth of its basic merchandising policy, that is of the character or personality it is attempting to create. If its main appeal is low price, it will try to give bargains every day at low markups and will sacrifice service and broad assortments to do it. If its main attraction is the reputation of having everything in its field, it will set prices that will provide a markup that will compensate for the expense of stocking the slow turners. If its main attraction is fashion leadership, it will set initial markups high enough to allow for markdown losses to come.[1]

Pricing Staples

The problem of pricing staples is somewhat different from that of fashion goods. Identical staples are handled by competitors, and customers have become accustomed to a rather narrow range of prices. Accordingly, the individual merchant has a very limited control over price—that is, he must mark the goods primarily upon a basis of demand and not upon a basis of cost. He must take the retail price very nearly as he finds it, and attempt to adjust his costs so that the predetermined markups will yield a profit margin. In practice, he frequently is not able to do this on many or all of his staples and must recoup the loss by introducing larger and larger proportions of fashion goods where he can set his prices with more consideration of his costs, because of the absence of direct competition or of specific customer judgments as to values. The question may be raised as to why the unprofitable staples are not dropped from the stock. There are two answers: one is the necessity of offering customers the service of complete assortments, and the other is the fact that the staples are generally sold above their direct handling costs. They thus contribute to store overhead, even though they do not carry their full share of expense.

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[1] For a more detailed discussion of principal policies see Chapter 7, *Buying for Retail Stores,* by Wingate and Brisco. New York: Prentice-Hall, Inc., 1946.

Three basic policies. Although the "market" does set a narrow range within which the merchant must price his staples,[2] he actually has a choice of three policies:

1. To price goods at the market price.
2. To price them above the market price.
3. To price them below the market price.

For example, a recognized quality of hosiery costs approximately 83 cents and is usually sold at $1.35, but some merchants sell this hose at $1.50 and others as low as $1.09. In this case, sale at the market price yields what is generally considered an adequate margin, but in other cases the market price allows a very low markup. For example, a drug product generally retailing at 39 cents costs 30 cents, even though the druggist will have to average a much higher markup than 23 per cent (9/39) to make a profit.

A policy of marking goods above the market is most likely to be attempted where the markup at the market price is inadequate, but for the highly competitive store the practice is likely to prove disastrous. Ill will may be engendered and sales of other merchandise reduced. Again, the loss of volume on the item in question is likely to cut down the contribution the item is making to store overhead. For example, the 30-cent drug item retailed at 39 cents may sell 100 a week and thus contribute $9 to expenses. If marked at 50 cents, only 10 may sell a week, a contribution of only $2. Even though some allowance should be made for the difference in direct expenses of handling 100 and only 10 items, the 39-cent market price is still likely to prove more advantageous.

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[2] Some inexpensive fashion goods produced at standardized cost prices fall in the staple category. For example, $4.75 cost dresses are typically sold at $6.95, but some stores sell them for $7.95, and others for $5.95.

Some stores attempt to obtain volume at a price above the market by offering more service to customers, by evolving elaborate displays, and by establishing a reputation of exclusiveness. Two types of stores are particularly successful in this regard—one is the instalment credit store and the other the exclusive shop. The credit store sells on instalment almost entirely. Customers are more interested in the amount of their weekly or monthly payments than in the price of the goods. Such a store can price staples above the market without serious injury to volume, and the extra markup is necessary to cover the extra costs of credit and collection.

The shop with a somewhat spendthrift clientele can also price goods above the market. Its customers do not compare values—they are patrons of the "right" or exclusive stores. Even if they know the same thing can be procured for considerably less elsewhere, they get satisfaction in paying more. Like the man who gives the change maker in the subway a tip, they enjoy a sense of largesse. However, the extra margin that stores catering to such a clientele enjoy is not all added profit. Their customers, even though they do not question price, demand expensive personal service and a regal store atmosphere. Nor do they hesitate to return goods bought carelessly. Again, they are quick to turn their patronage to a new and smarter store. Merchants who cater to them must make large profits while they enjoy favor, for like the prize fighter or movie star their years of prosperity may be few.

The policy of selling below the market, or at cut rates, is practiced chiefly by chain stores, popular-priced department stores and self-service specialty shops. Stores that give little personal service or "swank" in connection with their merchandise offerings are most successful with such a policy. They reduce their expenses below normal and accordingly can frequently sell goods most profitably at less than market price. For example, a store with expenses of 35 per cent of sales finds it desirable to sell 83 cents cost hosiery for $1.35, but a store with an expense rate of only 20 per cent can sell it for $1.15 and make more money, even if it should sell no more. The store, then, that caters to price-conscious customers who care little for service and attractiveness of surroundings can well adopt a policy of selling at less than market prices.

Even though they have no advantage in their expense rates, many stores sell at less than market price for one of two reasons: first, the volume possibilities at the submarket price may yield a larger dollar margin than is available at market prices, and, second, the price-cut item may be used as a leader. The profit opportunities of cut prices may be exemplified by the possibility that 83-cent cost hosiery may sell at the rate of 50 pairs if offered at the market price of $1.35, thus yielding a margin of $26; but at $1.15, the rate may be 100 pairs, yielding a margin of $32. If expenses are little increased by handling the extra quantity, the submarket price will be the more profitable.

Determining unit volume needed to justify a price cut. A major problem in connection with pricing is to determine what increases in volume would be necessary to justify cuts in retail prices or in markups. This problem applies particularly to staples that can be sold in increasing volume if the price is lowered. But before a lower than normal retail price is attempted, the merchandiser should know how much sales would have to increase above those at a normal markup to justify the cut. For example, an article costing 60 cents, in a store with a 40 per cent markup, will normally sell for $1, and sales at this price may average 10 a week, providing a total margin of $4. Were the price to be cut from $1 to 80 cents, the markup on each sale would be only 20 cents. To yield $4 a week, then, 20 sales a week would be necessary. Unless there is good reason to believe that such a price cut would more than double volume, it would not be justified.

As a formula, the increase in volume necessary to offset a price cut may be stated as follows:

$$\text{Ratio of New Unit Volume to Old} = \frac{\text{Old dollar markup per unit}}{\text{New dollar markup per unit}}$$

Thus, in the above example,

$$\text{Ratio of New Unit Volume} = \frac{.40}{.20} = 2.00 \text{ or } 200 \text{ as an index}$$

The same formula may be used if a higher retail price is contemplated in order to determine how much volume can decline without curtailing total dollar markup. For example, it may be proposed to sell the 60-cent-cost item for $1.20 rather than $1:

$$\text{Ratio of new unit volume} = \frac{.40}{.60} = .66\tfrac{2}{3} \text{ or } 67 \text{ as an index,}$$

indicating that if volume at $1.20 falls off no more than one-third, there will be no loss in aggregate margin.[3]

Changes in dollar volume to justify a price change. The above calculations provide an answer in terms of changes in *number of items sold,* not changes in the *dollar sales.* Thus, a cutting of prices from $1.00 to 80 cents requires that twice as many articles be sold but not twice as many dollars. Where one item formerly sold for $1, now 2 items must sell for 80 cents, a total of $1.60. Thus, *dollar sales* need increase only 60 per cent to maintain as large a margin as before.

Conversely, with the $1.20 price, at least two-thirds as many units must be sold: $\frac{2}{3}$ of $1.20 = 80 cents. Thus, *dollar volume* may decline 20 per cent (while unit volume is declining 33⅓ per cent) without impairing total margin.

Rather than multiply the index of unit volume by the new price to find the change in dollar volume, this change may be determined directly from the following formula:

$$\text{Ratio of New } \textit{Dollar} \text{ Volume} = \frac{\text{Old markup } \textit{per cent}}{\text{New markup } \textit{per cent}}$$

In the example, the old or normal markup was 40 cents or 40 per cent of $1. At the 80 cent price, it is 20 cents or 25 per cent of 80 cents. Thus:

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[3] The above discussion and the mathematical relationships presented give no consideration to differences in expense at different points. See Chapter 25 for an analysis of this matter.

$$\text{Ratio of New } \textit{Dollar} \text{ Volume} = \frac{.40}{.25} = 1.6 \text{ or } 160 \text{ as an index,}$$

indicating that dollar volume must increase 60 per cent.

Conversely, with a new price of $1.20, the new markup is 60 cents or 50 per cent of $1.20. Then,

$$\text{Ratio of New } \textit{Dollar} \text{ Volume} = \frac{.40}{.50} = .80 \text{ or } 80 \text{ as an index,}$$

indicating that dollar volume may decline 20 per cent.

INCREASES IN TRANSACTIONS NEEDED TO OFFSET PRICE CUTS

IF YOU CUT THE PRICE			5%	10%	15%	20%	25%	30%	35%	40%	45%	50%
ON MERCHANDISE THAT HAS BEEN NORMALLY MARKED UP	25%	THE ADDITIONAL UNIT VOLUME OF BUSINESS REQUIRED TO MAKE UP THE SAME DOLLARS AND CENTS MARGIN WILL BE	25.0%	66.7%	150.0%	400.0%						
	30%		20.0%	50.0%	100.0%	200.0%	500.0%					
	35%		16.6%	40.0%	75.0%	133.0%	250.0%	600.0%				
	40%		14.3%	33.3%	60.0%	100.0%	166.6%	300.0%	700.0%			
	45%		12.5%	28.6%	50.0%	80.0%	125.0%	200.0%	350.0%	800.0%		
	50%		11.1%	25.0%	42.8%	66.6%	100.0%	150.0%	233.0%	400.0%	900.0%	
	55%		10.0%	22.2%	37.5%	57.1%	83.3%	120.0%	175.0%	266.0%	450.0%	1000%
	60%		9.0%	20.0%	33.3%	50.0%	70.2%	100.0%	140.0%	200.0%	300.0%	500%
	65%		8.3%	18.2%	30.0%	44.4%	62.5%	85.7%	116.7%	160.0%	225.0%	333%
	70%		7.7%	16.6%	27.3%	40.0%	55.5%	75.0%	100.0%	133.3%	180.0%	250%
	75%		7.1%	15.3%	25.0%	36.3%	50.0%	66.7%	87.5%	114.3%	150.0%	200%

COURTESY NOTION AND NOVELTY REVIEW

FIGURE 8.

Distinction between changes in price and changes in markup. The above examples indicate that an increase or decrease in price is quite different from an increase or decrease in markup. In the example above, a 20 per cent increase in price increased the markup from 40 per cent to 50 per cent.

Every buyer should recognize the difference between these two concepts. For example, in a department with a 35 per cent markup, it may be proposed to increase markup to 38.5

per cent, with wholesale prices constant. This is not the same thing as increasing prices either 3½ per cent or 10 per cent. The increase in price may be calculated as follows:

Let \$1.00 = retail, and
.65 = the cost

Then, the new retail is $\frac{.65}{1.00 - .385} = \frac{.65}{.615} = \$1.056$, an increase of 5.6 per cent.

Conversely, a cut in markup from 35 per cent to 31.5 per cent is not the same thing as either a 3½ per cent or as a 10 per cent cut in prices:

Let \$1.00 = former retail and
.65 = cost

Then, the new retail is $\frac{.65}{1.00 - .315} = \frac{.65}{.685} = \$.949$, a decrease of 5.1 per cent.

Leader merchandising. The leader policy of marking merchandise is one that combines high and low markups. Instead of marking goods at the price that will yield the largest aggregate dollar margin above costs and direct expenses, some items are deliberately sold at a lower, less profitable price in order to attract customers to the store and to other goods on which a large profit may be made. The low markup goods are used as leaders, that is, as an advertising device to attract trade for other goods.[4] It must not be concluded that the marking of some goods less than the average markup required in a department always represents a leader policy. As explained, a low markup may be more profitable than a normal one because of volume possibilities. A further example appears in the box on page 136.

The leader policy has probably caused more criticism of retail stores than any other. It tends to mislead customers in that it gives the impression that all of the store's prices are low, whereas

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[4] When goods are deliberately sold at a loss, they are referred to as *loss leaders.*

Degrees of Price Cutting

The difference between routine merchandising, dynamic merchandising, leader merchandising, and loss leader merchandising may be explained by the following example of an item costing 60 cents with 2 cents handling costs in a store with a normal markup of 40 per cent.

	Billed Cost	*Unit Handling Cost*	*Unit Retail*	*Margin per Unit*	*Weekly Rate of Sale*	*Total Margin*
Routine merchandising (40% over billed cost)	$.60	$.02	$1.00	$.38	1	$.38
Dynamic merchandising (point of greatest total margin) ..	.60	.02	.66	.04	20	.80
Leader merchandising (to attract customers to other merchandise)	.60	.02	.63	.01	25	.25
Loss-leader merchandising (deliberate loss in lieu of advertising)	.60	.02	.59	—.03	30	—.90

actually the store may be taking extra high markups on other goods to offset the unprofitably low prices. The leader is simply bait to get the customer to the store with the intention of selling her other goods as well as the leader. In some stores, a practice is followed of trying to avoid the sale of the leader and substituting the sale of a profitably priced article. For example, in one chain organization, it was found that the large volume of sales in leader merchandise was seriously cutting down profits even though a 33 per cent markup was realized on nearly all other stock. Yet the company felt that competition forced it to continue the leader policy. To minimize volume on these items, however, it established the following rules:

First, each store was to have leaders in every department, but clerks were instructed not to use them for any other purpose than for "prys" or openers. Before, there were no restrictions on leaders, and salespeople could get their day's "book" easily by concentrating on the leaders, or nonprofitable merchandise.

Second, through the educational department of the organization a course in salesmanship was given to each salesperson.

Unless a salesman was willing to take the course, he was not encouraged to stay with the company. The problem of leaders was thoroughly discussed in the course, and reasons were pointed out why leaders should not be used for anything other than "prys." Advantages of properly-used leaders were stressed, showing how they could assist in increasing net profits. In this course, the merits of the company's own brands of merchandise, carrying normal percentages of markup, were emphasized, and salespeople were urged to support these brands when selling. Further to stimulate salespeople to concentrate on the merchandise with a normal markup and use leaders only when necessary, the company worked out a bonus percentage plan for employees in stores whose maintained markup was above a certain percentage.

To urge salespeople to "soft-pedal" leaders, as suggested above, is not unethical, but some stores have gone to extremes. Frequently, stores claim to be sold out on the leader; in other cases, salesmen are told to criticize the leader and urge a substitute as much superior. Such attempts to withhold the sale of advertised or featured leaders are generally conceded to be unfair, and the practice may subject the store to a court order to desist, at the instigation of the district attorney and the Better Business Bureau.

The leader policy not only misleads customers but also works a hardship on competitors and vendors. The cutting of a price below cost or even to a point less profitable than a higher one may force others to do the same in order to maintain their reputations for reasonable prices, and in order to get a share of the business. Thus many items, especially well-known national brands, become "footballs" in the trade and unprofitable to all retailers either permanently or for long periods. Manufacturers and other suppliers of those branded products are also injured in that retailers attempt to switch customers from the unprofitable leaders to more profitable substitutes. In some instances, the retailer may drop from his line entirely those items subject to ruinous price wars.

Although a leader policy may be attacked from the standpoints of customer, competitor, and resource, it has its defenders. It is pointed out that a leader is a substitute for advertising. It may cost a store $1,000 to attract 1,000 people through the newspapers, whereas the offer through a window display of goods costing the store $1.00 for a retail price of only 75 cents, may be equally effective and cost the store only $250 if each customer is limited to a single purchase. Thus, if both types of publicity resulted in an equal quantity of regular markup sales, the leader policy would be the more profitable. In practice, however, customers who are attracted by leaders tend to buy the leader and nothing else. Although the leader policy may attract people to the store more cheaply than other methods, the percentage of those attracted that actually buy profitable goods is much higher in the case of advertising. Thus, the contention that a leader policy is a desirable substitute for advertising is open to question. It may be a cheaper substitute but also one less productive of results.

It is probably a fair conclusion that even though a leader policy may yield profits to the store employing it, it is one that should be shunned as unsocial and injurious to others and one that is likely to prove less and less profitable to its practitioners over a period of time. This does not mean, however, that all offerings at lower markups are to be avoided. As already pointed out, volume possibilities at a low markup may yield the store a larger profit than a normal markup.

Legal aspects of loss-leaders. The loss-leader practice has caused so much friction in the trade that both state and Federal governments have passed laws to curb or eliminate it. These are of two types: (1) prohibition of sales below cost and (2) authorization of resale price agreements.

(1) There are some thirty-two states with laws prohibiting sales below cost with certain exceptions. The usual exceptions are as follows:

Clearance sales.
Imperfect and damaged goods.

Perishable or seasonal goods.

Sales under court order.

Goods sold at a price as low as that of a competitor, provided the competitor's price is not below his cost.[5]

Cost is defined in different ways. In some, it is the net purchase cost to the store. In many states it includes not only purchase price but also "expenses of doing business." In a few, it is purchase cost plus an arbitrary percentage. Since in two instances this is set at 6 per cent of purchase cost, it probably approximates the direct cost of handling.

States requiring that *cost* include store expenses do not clearly define what they mean. If this is interpreted to mean that the store with an average expense rate of 30 per cent of sales must mark an item costing 70 cents a minimum of $1.00, adjustment of prices to volume possibilities would be virtually eliminated. This interpretation would force upon retailers the uneconomic practice of loading every article with a predetermined percentage of its cost price regardless of value. It has been pointed out repeatedly in this book that sound merchandising requires flexibility in markup.

On the other hand, if "cost of doing business" is interpreted to mean simply an approximation of the direct expense involved in handling a given article, the law is on much sounder ground —for sale below such a cost is clearly loss-leader merchandising.

In addition to state laws aimed at selling below cost, section 3 of the Robinson-Patman Act prohibits sales below cost where there is an intent to injure competition and an effect to restrain trade. Since *intent* is hard to prove, this prohibition does not have "teeth" in it.

(2) The second legal method of coping with the loss-leader problem is the authorization of resale price maintenance contracts. Most of the states have such laws, and the Federal Miller-Tydings Act recognizes such contracts in interstate com-

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[5] An independent store's cost may be $1.00, whereas the cost to a chain competitor may be 95 cents. The independent would then be legally justified in selling for 95 cents, less than his cost.

merce between the states having such laws. See the main features of these laws, appearing in the box below.

Thus, manufacturers of branded products may contract with retailers or wholesalers, fixing the prices at which their products are to be resold. In most cases, a contract with one dealer is binding upon all other dealers, even though they are not direct partners to it.

These "fair trade" laws, as they are called, not only eliminate loss-leaders on the articles in question but may eliminate all price cutting. Although in many states the contract price is a minimum resale price, not necessarily the only price, there is a tendency for most stores to price at the minimum points allowed or somewhat above.

Chief Features of "Fair Trade" Laws

Purpose: To provide sellers the right to fix minimum resale prices.
Coverage: All states except Missouri and Vermont.
Prices covered: Usually the minimum resale price.
Who bound: Nonsigning dealers as well as those who have signed contracts agreeing to the minimum resale prices set.

Frequent exceptions:

1. Only trade-mark owners and their authorized distributors are permitted to establish contract resale prices.
2. Gifts, premium offers, coupons, trading stamps, and combination sales are prohibited if the effect is evasion of contract prices.
3. Secondhand goods and goods from which trademarks have been removed are not subject to resale price agreements.
4. Producer or distributor must be given reasonable notice of clearance or close-out sales and opportunity to repurchase stock at original invoice prices.

It should be noted that price maintenance is limited only to those branded articles on which the manufacturers contract to control resale prices. While many articles in daily use are now so controlled, the great majority of producers of branded goods have not as yet seen fit to enter into such contracts. They fear curtailment of distribution and the rise of competing private brands. The lines in which price maintenance has made most progress are toilet goods and drugs, books, liquor, and radios.

Pricing Fashion Goods

In the pricing of fashion goods, the merchant's problem is somewhat different. The goods do not always have a definitely recognized market value, and every effort is made by merchants to have styles not directly competitive; that is, every store attempts to obtain fashions somewhat different from those of its competitors. Thus, prices are based more on cost considerations and estimates of volume at different points and depend less upon usual and recognized prices.

In pricing fashion merchandise, the merchant may make a choice among the five policies appearing in the box on page 142.

Same markup percentage on all items. Some merchants still follow the first of the five alternatives, but it is generally an unwise policy for the following reasons:

(a) The customer's concept of value does not depend upon cost. Of two different items each costing $1.00, the one retailing at $1.75 may be a better bargain in the customer's eyes than one retailing at $1.35.

(b) Competition on the popular-priced fashion goods makes it necessary to carry many items in stock at less than the average markup needed. Few sales would be realized if the average markup were taken on all goods, and customers would complain that prices were out of line. To offset these low markups, items of a less competitive and less comparable nature must be marked at a higher than average percentage.

(c) Markdown risks vary greatly on different items. A 33⅓ markup may cover the average markdown risk as well as expenses and a profit margin, but on fashion items a much higher markup may be necessary to cover the risk.

Five Pricing Policies

For articles A costing \$1, B costing \$5, and C costing \$10 in a department with a 33⅓ per cent markup and an average markup in dollars of \$2.50, and an average sale of \$5:

Policy 1. Same markup per cent on all items.
A. \$1 Cost \$1.50 Retail
B. \$5 Cost \$7.50 Retail
C. \$10 Cost \$15.00 Retail

Policy 2. Same dollar markup on all items.
A. \$1 Cost \$3.50 Retail
B. \$5 Cost \$7.50 Retail
C. \$10 Cost \$12.50 Retail

Policy 3. Higher markup (45 per cent) on higher-priced goods and a lower markup (30 per cent) on lower-priced goods.
A. \$1 Cost \$1.43 Retail
B. \$5 Cost \$7.50 Retail
C. \$10 Cost \$15.38 Retail

Policy 4. Higher markup (45 per cent) on lower-priced goods and a lower markup (30 per cent) on higher-priced goods.
A. \$1 Cost \$1.54 Retail
B. \$5 Cost \$7.50 Retail
C. \$10 Cost \$14.29 Retail

Policy 5. Price each item at point where profit is at a maximum.

	Cost	*Retail*	*Margin*	*Sales*	*Total Margin*
A.	\$1	\$1.50	\$.50	10	\$5.00
		3.50	2.50	1	2.50
		1.43	.43	12	*5.16
		1.54	.54	8	4.32

\$5 and \$10 cost merchandise may be analyzed similarly.

* Best of these four possibilities, but there may be a still better combination among prices not presented in this table. Also allowance should be made for different handling costs.

(d) Expenses also vary on different items. Some items take much less time to sell than others; some turn over very rapidly and should bear very little of the rental charge; some are high in price and yet require no more handling than cheap items. For example, even though expenses may average 30 per cent of sales, they are not, on a cost accounting basis, 30 per cent of the sale price of each item.

A modification of the single markup policy is found in some lines in which large groups of manufacturers sell at the same fixed price line. The retail store establishes a fixed retail price for each cost price. Thus, the markup percentage on all goods costing the same is the same, but the percentage at different cost levels may vary. For example, one dress store marks all dresses costing $8.75 at $13.95, all costing $6.95 at $10.95, and all costing $12.75 at $19.95. The buyer is not allowed to mark some $8.75 dresses $15.00 and others $12.95; the cost sets the retail. The reason for this policy is to protect the store's reputation for good values. Freedom in selecting the retail price in view of the appearance of the dress and estimated customer acceptance might lead to taking long markups too often with the discovery by customers that the $15.00 dresses, for example, are identical or no better than many others available for less. The policy also avoids the opposite extreme of marking many items low, without increasing business sufficiently to offset the lost margin. In short, the policy avoids "spotty" merchandising.

On the other hand, many merchants believe that some latitude should be allowed buyers in taking higher markups where the excellence of style or quality warrants. Some $8.75 dresses, for example, actually cost the manufacturer more to produce than others; some have fashion features that are new and give them a greater value in the eyes of those interested in fashion rather than in quality. Many $8.75 dresses have been regarded as excellent "buys" by customers when marked at $15.00 and even $16.95, while other $8.75 dresses have been turned down even when priced at $11.95. While there is danger of developing ill will if extra markups are injudiciously taken, a department manager who is a good judge of values in style and quality can pick out outstanding styles for a high markup without jeopardizing good will. He can thus offset some of the low markups that competition may force upon him and some of the markdowns he must take on articles customers pass up.

Same dollar markup. The sum of estimated expenses, markdowns and profit goal can be divided by the total estimated transactions to determine the average markup necessary on each unit of sale and this added to the various cost prices. While this method is impracticable as a general pricing guide, it has advantages within narrow limits. It is an outgrowth of the reasoning that most expenses have to do with the physical handling of merchandise and records and that the value of the unit has very little to do with expense. Application of this theory would lead to the elimination of many low-priced items and to lower prices on high-priced items. For example, if the average markup necessary per unit were 50 cents, the attempt to mark a 50-cent cost item $1 would not be productive of sales since competitors price similar merchandise for 79 cents or thereabouts. Thus, it would be necessary to eliminate retail prices below approximately $1.25. This might greatly reduce the volume of transactions anticipated and make a considerably higher average markup necessary on other higher-priced items. Nevertheless, it is useful to calculate the average dollar markup per transaction as an analytical, but not a direct pricing, tool. It may lead to soft pedaling of low, unprofitable prices and to pricing high-cost goods low enough to have them appeal to the mass of middle-income buyers.

Higher markup on high-priced goods. The third pricing policy is that of obtaining a higher markup percentage on high-priced goods. It is followed by many stores, particularly those carrying a good deal of expensive merchandise. The well-to-do are often willing to pay prices that allow the store a high margin of profit, whereas the customers for the cheaper merchandise are generally more price conscious and there is more competition at these points. On the other hand, a policy of "soaking the rich" may drive away the more thrifty of the customers for better things, and limit the market to the very few who are able and willing to pay the high prices. For the popular-priced stores, it is generally dangerous to pile on the markup on the better quality goods; it cuts down the opportunity to increase the average sale and limits business to the lower, highly competitive price lines.

Low markup on high-priced goods. The policy of taking the lower markups on the high-priced goods has much to recommend it. With the average sale costing the store $1.00 and with a necessary average markup of 33⅓ per cent, a retail of $1.50 may be necessary; but a $10.00 item does not have to be sold for $15.00 to yield a profit. Expenses of handling the $10.00 item are certainly not ten times as great. A price of only $13.50 would yield a margin of $3.50 toward expenses, whereas the price of $1.50 yields only 50 cents. Taking lower than average markups on the high-cost goods may bring the retail prices of the goods within the buying range of a large number of people—a great many more may buy at $13.50 than could buy at either $15.00 or $17.50. The extra volume realized on the better merchandise may greatly increase dollar profits, even though the percentage markup is low.

On the other hand, a policy of less than average markup on the high-priced lines requires a more than average markup on the lower-priced merchandise. But competition on the cheaper goods seldom allows the store to take an extra markup percentage. The theory that a 50-cent cost item needing 40 cents to handle should therefore be marked at least 90 cents is difficult to apply. If the 50-cent item is carried, it may have to be sold at 69 cents—and it may be necessary to carry it to have a stock assortment adequate in the eyes of customers.

For a popular-priced store, it is probably wise to experiment with low markup percentages on high-priced goods wherever the reduction in price will so increase the dollar margin of profit as to make it unnecessary to compensate for the reduction by higher prices on low-cost goods. This is another way of saying that an increase in volume may lower the formerly needed percentage margin of markup from 33⅓ per cent to perhaps 30 per cent—for a large portion of a store's expenses are fixed.

Markup adjusted to volume. The final policy—to mark goods at a point where the product of dollar markup times volume is greatest—has much to recommend it, with a few limitations: (1) It is extremely difficult to forecast the sales volume possibilities at different price points; (2) expenses may increase unduly with increases in sales at a low markup; (3) markdown risks at different prices vary; and (4) the prices may not be attractive enough to assure repeat trade. In reference to expenses, 20 sales a month at $1.35 of an item costing $1.00 yield a $7.00 margin, whereas 10 sales a month at $1.50 yield $5.00, but direct expenses may be increased $3.00 by handling 20 items rather than 10. Thus the $2.00 extra margin with 20 sales may be more than offset by increased expense. Again, in the case of markdowns, it must be recognized that the slower rate of sale at high prices increases the danger of markdowns. The optimum markup goal can be more accurately stated as follows: To retail every item at a point at which the dollar markup above the sum of *cost plus direct expense plus markdowns* times estimated volume yields the largest product. For example, in the case of a $1.00 cost item with 10 sales a month, the direct expenses per item may be 15 cents and the probable average markdowns per item 2 cents, making total cost $1.17. With a retail of $1.50, the product is $3.30 (.33 × 10). With 20 sales a month, the direct expenses may still be 15 cents, but the markdown risk may be reduced to 1 cent, giving a total cost of $1.16. With a retail of $1.35, the product is $3.80 (.19 × 20), or 50 cents more than in the case of the higher price. Were the direct expenses 20 cents in both cases, the two prices would be equally profitable but the publicity value of traffic through the store would probably make the lower price the wise one.

In practice, astute merchants price somewhat less than the traffic will bear, since the customer must not only purchase but also feel that she has obtained a bargain, so that she will shop in their stores again. Repeat business is more important than the immediate sale. Accordingly, in the example given above, the goods might be priced even less than $1.35, with the maximum profit of $3.80 foregone for future benefit.

The suggested markup policy, then, is to plan individual prices, not in terms of percentages of markup, but in terms of volume, goodwill, and total costs. However, an average percentage markup goal should be set, for the aggregate for the purchases over a period must provide a total dollar markup that will be adequate to cover not only direct expenses and reduction but also overhead expenses. Since it is not possible exactly to determine volume, direct expenses, and markdowns at different price points, average percentage markup goals are necessary for every class of goods—provided no attempt is made to mark up everything just to this average.

Limits to markup. In carrying out a general policy of marking goods at a point where there will be the largest contribution above total costs to overhead expenses and profits, it may be necessary to set certain markup limits. In one department it was concluded that any markup above 50 per cent of retail, that is, more than double the cost, is dangerous. As a rule of thumb it was concluded that the profit possibilities at a higher markup are seldom as good as those below. The small sales volume that could be generally realized at a higher markup cut down on total margin. The department had a great deal of competition and carried goods of the same type that all its competitors carried; accordingly, every attempt to "get away" with a high markup was likely to lead to the discovery by customers that someone else was selling comparable goods cheaper. The department thus found by trial and error that in the long run, the best adjustment was a price at less than double cost.

On the other hand, stores that handle really exclusive goods of the specialty class need not be limited to a set maximum percentage in fixing prices—that is, the volume and margin combination may be greater at a very large markup than at a moderate one. For example, one shop makes a specialty of sea shells and dinosaur bones, which can be sold many times above cost. A lower price would probably have no effect on volume, for the store has no competition and the few who want these curios buy as much at one price as another, so long as it is within the zone of their buying power—a shell costing 15 cents may sell just as fast at $1.00 as it would at 25 cents.

Even as it may be desirable to set a maximum markup percentage, so it is sometimes desirable to set a minimum markup. For example, it may be found that direct expenses per transaction are nearly always at least 5 per cent of the cost value; thus a $1.00 cost item should not be sold for less than $1.05 regardless of volume possibilities at a lower markup.

To avoid unprofitable extremes in the markup percentage, some stores have set limits for the buyer. Markups outside of these limits have to be authorized by the merchandise manager or owner. These limits are expressed in one of two ways: (1) as a markup range and (2) as a cost range for certain fixed retail prices. Under the first plan, with an average planned markup of 40 per cent, a range of 30 per cent to 50 per cent may be allowed, invoices with higher and lower markups being held up by the accounts payable office for the approval of the merchandise manager. There is some danger that this plan may lead to manipulation. The buyer may mark his invoices higher or lower than his goods, so as to hide extreme markups, which he thinks desirable, without first arguing with his superior.

Under the second plan, a range of cost prices is set for every regular retail price line. For example, where an average markup of 36½ per cent is planned, goods for retail at $2.95 must be bought between $20 and $24 a dozen. The intention may be to buy most of the goods for $22.50 a dozen but to allow some leeway. A higher or lower cost for the price line is still possible if the buyer can convince the merchandise manager that it will be more profitable in view of volume and expense probabilities.

Conclusion on Pricing Policies

Studies made by the Brookings Institution indicate that a major cause of business maladjustment and depression is the common tendency of businessmen to maintain prices at high levels at which only a small quantity can be sold. Many merchants have shown greater zeal in maintaining established prices and customary markup than in increasing demand through lower prices.

In retailing terms, the merchant who will sell nothing at less than an established markup percentage not only hinders the wide distribution of goods but also cuts down his own profit possibilities. Even though a markup of 40 per cent may be deemed necessary in a store or department to cover probable expenses and markdowns to yield a profit, a merchant would be wrong in believing that a 40 per cent markup is necessary on all purchases or that he must offset every markup of less than 40 per cent with a higher one. In view of the fixed nature of many expenses, the expense percentage may be readily decreased with an increase in volume. The consideration of markups and expenses solely as percentages of sales has led to harmful price policies. It has led to freezing prices at points at which volume has been much smaller than it could have been at lower prices. Large groups of customers, because of similarity of incomes and habits, have the same limits to what they will pay. For example, an article costing 70 cents if marked at $1.35 may appeal to only 10 customers a week; if marked at $1.15 it may appeal to a lower purchasing power group containing twice as many customers, and at $1.00 it may become of interest to another group ten times as large as the first. There is need for more attention to the dollar margin above costs and direct expenses, obtainable on the aggregate of sales at different price points.

It is sometimes wise to seek sales volume at prices even below those that yield the largest dollar profit. In periods of business recession it is more important to keep goods moving and people employed than to make the maximum profit at the moment. A deliberate policy to make no profit or even to eat into surplus temporarily so as to price goods at points at which they will sell in volume may be the farsighted one. The momentary loss is a contribution to recovery and will probably be much less than the loss caused by a policy of freezing prices that restrict sales and lead to deeper and deeper depression. Nor is this leader merchandising, for the low markups are not being offset by high ones—rather the store is foregoing profits now to help restore general prosperity tomorrow.

REVIEW QUESTIONS

1. What are the demand factors that determine retail price? The supply factors?
2. Give an example of a situation where a balance of supply and demand factors yields a large profit.
3. What is the relationship between a store's price policy and the personality it is attempting to create?
4. Why is the problem of pricing staples different from that of pricing fashions?
5. From what three policies may a merchant choose in pricing staples?
6. How may a market *plus* price policy be implemented? What kinds of stores can best follow this policy?
7. What kinds of stores follow a market *minus* price policy?
8. Why might a store with no competitive advantage in expense sell at below *market* price?
9. What is the formula for determining the increase in *unit* sales volume necessary to offset a price cut? Show how the same formula may be used to determine how much *unit* volume may be sacrificed when prices are raised, without reducing the gross margin.
10. What is the formula for determining the increase in dollar sales volume necessary to offset a price cut? Show how the same formula may be used to determine how much dollar volume may be sacrificed when prices are raised, without reducing the gross margin.
11. In connection with questions 9 and 10, is the change in transactions always larger or smaller than the change in dollars?
12. Explain why a decrease in price of 10 per cent is not equivalent to a decrease in markup of 10 per cent.

13. Which is always the greater: the relative change in markup or the relative change in retail price?
14. Distinguish among: dynamic merchandising, leader merchandising, and loss leader merchandising.
15. What are the objections to a policy of using leaders?
16. What is the defense of a leader policy?
17. What are two legal methods of reducing the use of leaders?
18. Why does cost need careful definition in any prohibition against sales below cost?
19. What are the chief features of the "fair trade" laws?
20. What five pricing policies may be considered in connection with fashion goods?
21. What are the objections to a fixed markup percentage?
22. Is it ever practicable to aim at the same dollar markup on goods having different costs?
23. What are the arguments for a policy of "the higher the price, the lower the markup per cent"?
24. If volume at all price points could be forecast, what would be the best way to set retail prices?
25. Why do smart merchants deliberately price goods below what the "traffic will bear"?
26. Why is it often wise to limit the buyer's freedom in pricing?
27. What are two devices to avoid extremes in markup?
28. Why is the markup percentage alone a dangerous merchandising guide? Show why more attention should be given to dollar markups, particularly in the aggregate.

9

How to Set Price Lines

When to Use Price Lines

Irrespective of what other major price policy a store may follow, the question still remains as to whether to mark each item at any price that seems likely to give the desired sales results or to set up distinct retail price lines and to insist that every item be marked at one of these prices and not at points in between. Price lining is based on the belief that customers are grouped into rather narrow purchasing power zones; for example, there may be a large number of women who pay between $2.00 and $4.00 for a handbag. Within these limits the demands of members of each group are flexible; if a store establishes a single price somewhere near the center of the zone, it may be able to satisfy the price demands of most customers in the zone. Thus, a price line of perhaps $2.95 might be established. Where the zone is broad, two or three price lines may be necessary in the zone.

Price lining, however, is suited primarily to shopping goods, that is, to merchandise of which the customer wishes to inspect an assortment of styles, patterns, or colors before selection. It is particularly adapted to clothing and home furnishings in the popular price ranges. It has only a limited application to convenience and specialty goods. There is no need for a grocery store to maintain price lines of canned peas or of coffee—the customer does not wish to compare an assortment in a price line before buying. The demand is for specific articles or brands rather than for a class from which a choice is to be made. Thus drugs, notions, and housewares do not generally need price lines. It is true that individual prices must be set to realize a free flow of sales, but there is no need to have a variety of items all at the same price.

The Price Zone vs. The Price Line

A Price Zone: A range of prices all appealing to customers in a certain income group.

Example: $17.95 to $25.00 dresses.

A Price Line: A specific price within a price zone at which a representative stock is carried.

Example: $19.95 dresses.

Note: There may be more than one price line within a zone:

For example: $17.95, $19.95, $22.95 and $25.00 within the $17.95 to $25.00 zone.

Nor are price lines necessary in high-priced goods where the price is a minor consideration in purchase. In real jewelry as distinguished from novelty and costume jewelry, the customer is not looking for assortments in certain price zones but rather for one-of-a kind merchandise of a specialty nature. Likewise in expensive antiques, price lines do not fit into the customers' buying psychology. However, in the case of inexpensive antiques and gifts, price lines may be very important, for the customer is seeking something in a price zone that will fill a general need, and he wants an assortment to choose from in that range.

Advantages. The chief advantages of price lining for shopping goods are as follows:

1. Increased sales because of (1) bigger assortments in each price line made possible by elimination of in-between prices; (2) greater ease in getting a customer to come to a decision when her selection is limited to goods at all one price; and (3) more effective advertising and promotion, since the store can concentrate interest at a few price points. The customer gets to know the store's price lines and knows she can find complete assortments at these prices.
2. Easier to maintain stocks that are balanced to demand, because the merchant can focus his attention on a few prices rather than spread it over a great many.
3. Smaller total stocks, giving greater stock-turn and reducing markdown risk.
4. Reduced expenses because of quicker sales and lower marking cost; also reduced marking errors.
5. Price co-ordination of merchandise in different lines simplified. This point is discussed on page 159.
6. Cost prices and buying expenses sometimes reduced. Fewer selling prices are likely to lead to buying from a few sources, which make goods to sell at those prices only.
7. Easy to determine the best markup and retail price. In view of the cost, the choice is generally limited to marking the goods at one or two retail prices, and frequently only one price is practicable, for the goods would not be good value at a higher price and would yield such a low markup at a lower price as to cover little more than direct expense.

Limitations. In spite of the obvious advantages, there are some limitations to a policy of a few price lines.

1. Considerable jumps between prices make it difficult to trade up. For example, a store may have a $1.00 price, a $1.35 price, and a $1.75 price. There may be some customers who would pay more than $1.00 but not so much as $1.35, or more than $1.35 but not so much as $1.75. Chances to make a $1.50 sale rather than a $1.35 sale, for example, may be foregone in establishing price lines. To avoid the loss of such opportuni-

Actual Price Lines in Three Departments in One Store—An Example

Medium-Priced Dresses

COST	RETAIL
$10.75	$16.95
	17.95
11.75	19.95
12.75	22.95
14.75	25.00
16.75	29.95
17.75	
18.75	
18.75	35.00
19.75	
22.75	39.95
23.75	
24.75	
26.75	45.00
27.75	
29.75	45.95

Medium-Priced Untrimmed Coats

COST	RETAIL
$29.95	$49.95
35.00	59.95
39.75	
39.75	69.95
42.75	
45.00	
45.00	79.95
49.75	
49.75	89.95
59.75	98.00
69.75	110.00

Millinery

COST	RETAIL
$3.00	$5.95
3.50	6.95
4.00	7.95
4.50	8.95
5.50	10.95
6.50	12.95
7.50	15.00

It should be noted that there is considerable variation in markup at different points, except in the case of millinery. Thus, an $18.75 cost dress marked $29.95 provides a markup of only 37 per cent, but if marked $35.00 provides a markup of 46 per cent. Likewise, a $59.95 coat costing $35.00 provides a markup of 42 per cent compared with a $69.95 coat costing $45.00, that provides a markup of only 36 per cent; but the dollar markup at both prices is identical.

ties, some stores have substituted price zones for price lines. For example, $1.20 to $1.50 may be regarded as one zone centering at $1.35. Most goods in the zone may be marked at $1.35, but the manager is allowed to mark some items more or less. For merchandise control purposes, the zone is treated as a single price line, and the goods in the zone are generally grouped together for customer convenience.

While there is danger of curtailing the average sale by rigidity in price lining, particularly if the prices are far apart, it must be recognized that a few strong prices are just as likely to lead to trading up as trading down. With a strong $1.35 price line, many customers who intend to spend about $1.25 will spend $1.35 rather than drop to the $1.00 price line, when they see that they can get better goods for an additional 10 cents. The opportunity to offer complete assortments at a few prices probably more than offsets the advantage of complete flexibility, with prices every few cents, which leaves a continual question in the customers' minds as to whether one item is worth the few cents more or not. The differences in price lines should be large enough so that customers can easily recognize the differences in quality and style.

2. Another limitation of price lining is that the arrangement is inflexible on a rising or a falling market. For example, a store may have one price line of $1.35 and a lower one of $1.00. Goods retailed at $1.35 may average 80 cents at cost and at $1.00, 60 cents. A 10 per cent decline in wholesale prices brings the cost of the former to 72 cents and makes the $1.35 price too high in view of competition. If the goods are marked at the lower price line, the markup is only 28 per cent, compared with a former 40 per cent. There is no doubt that during recessions stores that have established price lines find it difficult to adjust retail prices in the same ratio as the decline in wholesale prices. Likewise, on a rising wholesale market, to jump retail prices to the higher regular price line may harm sales; accordingly, there is a danger of holding to existing retail levels for a time, after the wholesale has risen.

Planning by zones. In weighing the importance of the above limitation of price lines, it should be borne in mind that changes in wholesale price levels are bound to present a difficult problem, whether price lines exist or not. During transition periods, new and intermediate price lines may have to be established and a careful analysis made of the relative merits of the former markup percentage at restricted volume or maintained volume at a restricted markup. As suggested above, planning by price zones rather than by price lines often proves the better plan. Knowing, for example, that a representative assortment of dresses must be carried between $17.95 and $25.00, the store can change the price line emphasis within the zone in view of market offerings. Rather than being under any commitment to maintain a complete assortment at $19.95, for example, the buyer can move up or down within the range, selecting the point at which he can offer the most attractive merchandise at the moment, consistent with adequate markup.

Ordinarily, in most small stores and in departments of large stores, three price zones are sufficient: a middle-volume zone accounting for at least half of the total sales volume; a lower-promotional zone accounting for 15 per cent to 40 per cent of the sales volume; and an upper-prestige zone accounting for 5 per cent to 25 per cent. In a large store that caters to many income groups, more than three zones may prove necessary. In these cases, it is desirable to establish separate budget or basement departments and possibly de luxe departments in addition to the regular "upstairs" departments. Thus, it would be possible to have nine zones, even though there would be some overlap.

Setting the Price Lines and the Price Zones

Number of price lines. There is no categorical answer to the question of how many price lines should be carried. Some shoe stores and some men's clothing stores are successful with only one and some dress stores with two or three. The late Edward A. Filene [1] advocated three major price lines with the possibility of four intermediate ones as follows:

Lowest price
Lowest full-line price
Intermediate price
Middle full-line price
Intermediate price
Highest full-line price
Highest price

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[1] E. A. Filene: *The Model Stock Plan.* New York: McGraw-Hill Book Company, Inc., 1930.

While the soundness of the concept of a limited number of price lines is generally accepted, many experts feel that there is no ideal number that is generally applicable. As already indicated, many ready-to-wear merchants plan a limited number of price zones—commonly three (called subzones in the table on page 161) and set no predetermined control over the number of prices at which goods may be offered within the zone.

Steps in setting price lines. The steps in setting price lines are as follows:

1. List all prices at which stock is carried or at which sales have been made.
2. Determine the sales at each price by means of a unit-control system. If possible, the sales made at original prices should be segregated from the sales of reduced merchandise. One way to do this is to establish special markdown prices at which no new goods are marked. In a shoe department, for example, there are the following prices:

Regular	*Markdown*
$ 5.94	$ 4.94
7.94	6.44
9.34	8.44
11.74	10.74
13.89	11.89
16.89	13.74

   The sales at regular prices are better guides to the desirability of a regular price than are all the sales, many of which have been clearances. The intermediate prices also minimize markdown losses. An $11.74 shoe does not have to be reduced $2.40 to the lower regular price line to be sold. It may be marked down $1.00 to $10.74. The control of purchase is not complicated by this plan, because new goods can be marked at only one of six prices.
3. Analyze the sales at each price in relation to (a) the stock that has been available at that price; (b) the want slips submitted for goods at that price; and (c) the promotions at that price. The price line showing the greatest sales may not be most desirable. Another price may be potentially a much greater volume getter, but it may have suffered from starved stocks and lack of promotional emphasis.
4. Make an estimate of the income and the budget of expenditures

of the average family to whom the store caters. This will help determine how much customers can afford and how much they will wish to spend for the line in question.

5. Group near-by price lines that seem to appeal to the same class of customers into zones and determine the relative importance of each zone. The establishment of correct zones of demand is more important than the setting of individual price lines within each zone.
6. Study price lines and zones in related departments to determine the type of customer to whom the department can best appeal and to realize correlation among offerings of related lines of goods. For example, one store concluded that the customer who would pay $79.95 for a coat would pay approximately the following prices for related items.[2]

Daytime dress	$17.95
Evening dress	22.95
Hat	6.95
Shoes	7.95
Bag	4.95

7. Study competitors' prices both as to number and as to price points. The prices finally set should be near enough those of others to be competitive. For example, one store found that ten of its competitors had an $8.00 price for men's oxford shoes and thirteen had an $8.50 price. This fact contributed to the decision to establish a price at $8.44.
8. Have the jumps between price lines in the high-priced zones greater than those in the medium-priced and lower-priced zones. Thus, in high-priced dresses—over $50—there may be approximately $10 price jumps, and in medium-priced dresses ($25.00 to $50) approximately $5 jumps, and in lower-priced dresses only $2.00 jumps.
9. Consider store policy in regard to price endings. One store has the following policy:
   a. Between $.01 and $.19 any price may be used.

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[2] Analysis in terms of zones rather than specific prices would probably have been more satisfactory. Also, it should be observed that store research along this line has not been conclusive because any one store's assortments at all price points are incomplete and many customers buy one item, such as shoes, in one store and hats in another. Thus, the best selling prices in the various departments are not necessarily those that appeal to the same typical customer. Again, even when charge accounts are analyzed, purchases for different members of a family distort the picture of what price lines in related departments really apply to the same person. Data on total production by price lines would probably be the most accurate guide for analyzing the problem.

  b. Between $.20 and $2.00 any price may be used except these ending in 0, 5, or .99.
  c. Between $2.01 and $25.00 any price may be used except these ending 0, .01, .02, .03, .05, .98, or .99.
  d. Between $25.00 and $100.00 the price must end in .25, .50, or .75.
  e. Above $100.00 no price may end in cents, but any dollar price may be used except those ending in 0 or 5.

10. Consider wholesale prices at which good values are available in the wholesale market. While, over the long run, the price lines the retailer prefers in view of customer demand will become established, over the short-run he is dominated by the existing wholesale price lines, and must adjust his retail prices to points that will provide the approximate markup he requires. Thus, if there is an established wholesale price for coats at $49.75 and the buyer needs about a 45 per cent markup, he will establish a retail price at $89.95.
11. Set cost buying ranges for each retail price line. For example:

Retail Price Line	*Cost Buying Range*
$2.00	$1.00 1.40
3.00	1.55 2.00
5.00	2.75 3.50

These avoid extremes in markup and may aid in bargaining if the quoted cost is between two buying ranges.

Price zone analysis. Step 5 needs some further elaboration here. There is considerable evidence that customers are grouped into price zones. For example, there is a very large group of customers who will spend about $14 for a silk or rayon street dress—they will pay as much as $16.95 if they see just what they like at that price or want something a little better than usual; and they sometimes buy a $9.95 dress. But in general they buy between $10.00 and $17.00. There is another group of customers who will pay around $20.00 and sometimes as little as $16.95; their typical range is $17.00 to $25.00.

A study of dress merchandising reveals the zones in the box on page 161. It is obvious that at least one price line is necessary in each of the subzones that the store wishes to have represented in stock. A popular-priced department store may carry C_3 merchandise up to A_3. Seven price lines, then, would be the minimum, but it is probably wiser to have two price lines in every zone.

Again it should be observed that manufacturer's wholesale price lines have a great deal to do with the setting of retail price

Major Price Lines and Zones in Women's and Misses' Street Dresses

Price Line	*Subzone*	*Major Zone*
Above $125 (custom made)	A_1	A
125.00 89.95	A_2	
79.95 69.95	A_3	
69.95 59.95 49.95	B_1	B
39.95 29.95	B_2	
25.00 19.95 17.95	B_3	
17.95 16.95	C_1	C
14.95 13.95 12.95 10.95	C_2	
9.95 8.95	C_3	
8.95 7.95 6.95	D_1	D
5.95 4.95	D_2	
Under 4.95	D_3	

lines and that the relative emphasis on the price lines within the zone must fluctuate with changing market conditions.

The typical apparel chain operates in zone C, dipping down into zone D_1 with its peak volume at C_3. The typical department store operates in zones B and C, with its peak volume probably in C_2. The Fifth Avenue specialty shop operates in zones A and B, dipping into C_1 in budget departments.

Odd prices. Odd price lines are those ending in uneven amounts rather than round numbers. The original reason for introducing them was apparently to force salespeople to obtain change and thus make it less easy for them to pocket the customer's remittance without recording a sale. The scheme was thus a check on shortages. But today the chief reason for the odd price is a belief that it sells goods more readily than the even one. It is said that a $2.95 price draws attention to $2, not $3, and that psychologically it is much less than $3; accordingly, sales volume may be materially increased.[3] Also, it is believed by some that customers like to get change back; even if it is only a nickel, it is enough for a phone call.

There are certain odd prices that are generally considered as more fruitful than even prices, but there are certain even prices that are better. In general, odd prices are most compelling in the lower ranges. For example, a $1.95 price seems to be generally better than a $2.00 price for items of clothing and accessories that sell in greatest volume at higher prices, but a $3.00 price for a man's tie may be just as good as a $2.95 price, probably because the popular price for a tie is considerably less today and because the even price emphasizes quality, which the customer is also stressing. Again, the $5.00 and $10.00 prices for articles of women's clothing seem to be generally quite as satisfactory as $4.95 and $9.95 prices, but many are convinced that a $5.95 price is better than $6.00 and a $19.95 price better than $20.

The relative acceptance of odd and even prices in different price zones probably varies with communities. A store must experiment to determine what odd prices are actually preferred. But it is wrong to assume that odd prices are generally more conducive to sales. They have probably been overdone. They are particularly adapted to a store whose central policy is low price. When the chief emphasis is placed on assortments, quality, or service, round prices may be used.

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[3] Some experts feel that a price has to be much less than $2.95 to give the customer the impression of a $2.00 price.

Revising price lines. After price lines or price zones have been set, there should be a careful analysis of sales and "wants" at each to determine whether they are proving adequate for the demand. Normally, the greatest unit volume should be enjoyed at a middle price or zone. For example, if dresses are sold at $9.95, $12.95, and $16.95, only, the greatest volume should be realized at $12.95. If $9.95 should prove the more popular price, this would be an indication that many customers would respond favorably to a lower price, perhaps $7.95. However, the possible lack of serviceable merchandise in the wholesale market to sell at this price might make it unwise for the store to comply.

Similarly, should the greatest unit volume be realized at $16.95, this fact would be an indication that many customers would readily pay more for still better quality and a $19.95 price may be introduced.

In periods of deflation, a middle price line or zone that had been the most popular may become the highest price at which goods sell actively, and the need for a price below the former lowest price may become apparent. Likewise, in inflation, the middle best selling price may become the lowest price at which any substantial volume is realized, indicating the need for a higher price than the highest one formerly in use.

During the downward course of a depression, every merchant is faced with the following alternatives in regard to price lines and quality of shopping goods handled:

1. To maintain present price lines but offer better quality than before at these points.
2. To lower price lines and offer the same quality as before.

3. To lower price lines drastically and carry poorer goods than handled before.

During a period of rising prices, the alternatives are reversed:

1. To maintain present price lines and offer poorer quality.
2. To raise price lines and offer the same quality.
3. To raise price lines and offer better quality.

On a declining market. During periods of declining prices, all three of the alternatives first enumerated have been tried. The first has not generally been successful. With the decline in incomes, it is impossible for people to pay former prices even though they get more for their money.

The second policy, that of lowering prices but maintaining quality standards, is most praiseworthy and conducive to the maintenance of customer good will, but it frequently fails to sustain volume adequately. Incomes are in many cases cut so drastically that customers find it necessary not only to buy at lower price levels, but also to buy poorer goods than they would have considered before. As a result, stores that reduce standards of quality sometimes enjoy a considerable patronage. However, the dissatisfaction with some of the purchases made impairs customer confidence. The store that is adequately financed to ride through the depression on a limited volume is probably better off by maintaining quality.

On a rising market. On the rising market, the offering of poorer quality at a pre-existing price is exceedingly dangerous. Should it seem desirable to adjust retail prices upward more gradually than cost prices, it would be better to take a temporary cut in markup than to offer lower quality at established prices.

There is no doubt that recovery brings with it a demand for better quality merchandise at higher prices. Since many of the expenditures of a typical customer are of a relatively fixed nature, a 10 per cent rise in income allows more than a 10 per cent increase in the expenditure for general merchandise and automobiles. Thus, a policy of stocking and promoting better quality goods at prices above the former best-selling levels may prove the most desirable. Again, the policy is much easier to defend than one of simply adjusting prices upward on the same quality. With a 10 per cent rise in costs, a customer who paid $10.95 for a dress does not like to feel that she is getting no more for her money at $12.00. But if the store offers her a better garment at $12.95, or possibly at $13.95, she is more likely to be satisfied. In brief, to offer better quality at higher prices in periods of rising prices and the same quality at lower prices in periods of falling prices—these seem to be the more intelligent policies.

Building acceptance for price lines. The technique first expounded by the late Edward A. Filene in his book the *Model Stock Plan* [4] was that at every planned price line there should be two especially selected items: a B.B. and an M.P. The former or *Best Buy* is an article of great intrinsic worth at the price, a value gained if necessary by lowering the markup on that item below the average necessary for the line as a whole. The latter or *Most Profitable* purchase is an article that provides a high markup to the store but incorporates certain style features that appeal to fashion conscious customers. The bargain seekers, that recognize good material and workmanship, will buy the B.B. and spread abroad the news of the excellent values the store affords at the price. The fashion-minded customers, on the other hand, will locate the M.P. in the price line assortment, with its extra features of novelty that have not added to its cost. Between the B.B. and the M.P., the store can maintain an adequate markup on the price line.

REVIEW QUESTIONS

1. For what class of merchandise are price lines needed?
2. Distinguish between a price line and a price zone.
3. What are seven advantages of price lining?
4. What conclusions may be reached by studying the retail price lines and corresponding costs appearing in the box on page 155.

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[4] *Op. cit.,* page 157.

5. What are two limitations of price lines?
6. Why do some buyers plan by zones rather than by price lines?
7. How is sales volume usually distributed among the three major price zones carried?
8. What guides are there as to the number of price lines to carry?
9. List eleven considerations in the planning of the price lines for a given type of fashion merchandise.
10. What are the advantages of segregating markdown prices from regular prices?
11. Explain the importance of correlation in connection with price lining.
12. What are the advantages and disadvantages of odd prices? Why does the importance of odd prices differ at different price levels?
13. Should retail price line requirements determine wholesale prices or should wholesale prices determine retail price lines? Discuss.
14. How may price zone analysis be used in setting price lines?
15. In which price line should the greatest volume of sales be concentrated? What may be required if the concentration is elsewhere?
16. In periods of deflation, from what three price line policies may a merchant choose? Which is generally the best?
17. In periods of inflation, from what three price line policies may he choose? Which is generally the best?
18. How may acceptance for a price line be developed?

10

How to Control Markdowns

Causes of Markdowns

Because of markdowns, the maintained markups of many stores fall far short of their initial markups. These markdowns are of two major types: (1) those that are taken to correct retail prices to which customers are not responding satisfactorily and (2) those that are used as a merchandising devise to increase sales. The first type may be thought of as corrections of four types of errors that have been made: errors in buying, in pricing, in selling, and in stock control.

Buying errors. The merchant may fail to analyze trends in customer demand carefully and buy the wrong styles, sizes, colors, patterns, prices, or types, or too large quantities of otherwise desirable merchandise. Probably the most serious error is the purchase of excessively large quantities of successful styles at the peak of the season which cannot be disposed of during the waning season except at a loss. See the box on page 168.

Pricing errors. A second reason for markdowns is errors in pricing. See the box on page 169. Goods may be bought in the right styles, at the right time, and in the right quantities but be improperly priced. The buyer may be over-optimistic, pricing goods too high. For example, a couch costing $60 may be retailed at $120, even though it may not sell in reasonable quantities for more than $100.

Sometimes the initial price is too low and customers are suspicious of quality at the unexpectedly low price. The solution would seem to be to mark the goods up, but if they have already been held at the low price until late in the season, markdown for clearance may still be necessary.

Consolidation of price lines sometimes leads to markdowns. If a buyer had twenty price lines and finds he can get along with ten, it will be generally necessary to mark down goods from the intermediate prices to be dropped to the ones to be retained. To mark up goods to the higher prices to be retained would lead to customer criticism in many cases.

Even when initial pricing is properly done, errors may be made in repricing. Buyers don't like to admit errors and tend to try to minimize them by taking less markdown than necessary to move a substantial portion of a style no longer selling at its original price. For example, a portion of $59.95 slow-selling suits might sell readily for $45, a 25 per cent reduction from

Buying Errors Leading to Markdowns

1. Overbuying.
    a. Failure to plan sales and purchases by class and price line.
    b. Failure to buy in small experimental quantities prior to placing large orders.
2. Failure to buy the right styles, colors, fabrics, and sizes. (Too many mediocre items.)
3. Failure to anticipate reductions of wholesale price.
4. Poor timing.
    a. Ordering goods too early.
    b. Ordering goods too late—at height of selling season.
    c. Delay in getting goods after ordering.
    d. Failure to plan stocks and resultant purchases in relation to expected sales each week or month.
5. Failure to spot best sellers promptly and to build up the stocks of these items. (Failure to play the winners.)
6. Failure to develop a close working relationship with a few key resources.
7. Failure to examine incoming merchandise carefully for defects, workmanship, and fit.

original retail price. But to mark them first $55, then $52.50, then $49.50 and later $45 may leave one half the supply still to be sold at even lower prices. Like cutting off the dog's tail, the slash is sure to hurt but the first cut should be large enough to achieve the sales objective. It does not follow, however, that every markdown should move *all* of the goods reduced. If a cut from $55.95 to $45 moves 50 per cent of the supply, the results are generally satisfactory. To be sure that every style, color, and size would sell at the first reduction might mean offering the goods at half price, $29.95—and the total markdown loss would be much larger than necessary.

Pricing Errors Leading to Markdowns

1. Markup too high.
2. Markup too low.
3. Consolidating price lines.
4. First markdown too small.

Selling errors. A third reason for markdowns springs from improper salesmanship and display. See the box on page 171. One of the major causes of customer returns is careless selling or high-pressure selling; and returned goods are an important source of markdowns. Changes in style and price and physical deterioration while the goods are out of stock result in markdowns. And if the stock must be brought out for customer choice, the attitude of salespeople toward certain styles is a major cause of markdowns; salespeople tend to take the road of least resistance and show only what they personally like. As a result, much merchandise stays on hand an undue length of time because of failure to present it to the types of customers for whom it was selected.

Stock control errors. The fourth reason for markdowns is faulty stock control. See the box on page 171. Goods may be properly bought, priced, and presented to the public and still become slow-selling and subject to markdowns because of failure to follow up the stock. *Retail* is almost a synonym for *detail.* Merchandising is not a bulk operation; rather it involves giving attention to each individual piece of merchandise to see that it is not neglected. If there is no organized follow-up, many items will remain in stock too long and ultimately require a drastic price cut. Without controls, there is also the danger of going to the other extreme, taking markdowns at a time when there is still an excellent opportunity to sell them without a concession. This may happen when generally unfavorable sales conditions are allowed to overshadow healthy sales movements of individual items.

Sales policies leading to markdowns. Clearly, a store should make every effort to reduce buying, pricing, selling, and control errors. The chief requisites in buying and pricing are a careful study of fashion trends, careful planning of stocks and price lines, and the adherence to purchase plans. In selling, it may be desirable for the buyer to "sell' certain styles to his salespeople, to show them that goods that they may not like personally are well suited to the wants of certain customers. It is also always desirable to teach salespeople how to sell goods that will stay sold, for returned goods are an important cause of markdowns. In control, follow-up systems must be devised and operated.

But after every effort to reduce unwise buying and selling practices has been made, markdowns will still remain large particularly in fashion merchandise, owing to the existence of certain store policies introduced in the interests of sales volume. The box on page 171 lists the more common of these.

Price competition and sales. Obviously, if a store has a policy of meeting all price competition, the unforseeable action of other stores will force markdowns even though goods have been properly bought, priced, promoted, and controlled. This is the price paid for a reputation that builds good will.

Special sale policy. A promotional policy of frequent special sales is sure to lead to larger markdowns than a nonpromotional policy of carrying regular stock assortments. Some stores reduce

Selling Errors Leading to Markdowns

1. Failure to show and display merchandise adequately.
2. Failure to explain to salespeople the types of customers for whom certain styles were designed.
3. Lack of follow-up of salespeople to keep them interested in showing old stock as well as new stock. (Show an old style with every two new ones.)
4. Careless handling leading to damaged merchandise.
5. High pressure or careless selling leading to customer returns and eventual markdowns.

Control Errors Leading to Markdowns

1. Failure to maintain a periodic checkup of slow-selling styles.
2. Failure to check up on new styles so that they will not become slow-selling.
3. Delaying markdowns too long.
4. Taking markdowns too soon.

Sales Policies Leading to Markdowns

1. Meeting price competition.
2. Special sales of regular stock. (Unsold balance may be restored to regular price.)
3. Frequent special sales of promotional merchandise leading to promotional remainders.
4. Obligation to customers to maintain assortments late in the season. (Maximum sales and profits possible only by stocking more than can be sold at original prices.)
5. Policy of large initial markups coupled with large markdowns so as to exploit the comparative price appeal.
6. Multiple-sale policy. (For example; 10¢ each, 3 for 25¢.)
7. Carrying prestige merchandise. (Model pieces and "fashion show" merchandise originally purchased primarily for display purposes.)
8. Giving customers goods free-of-charge, such as samples.

regular stocks once or twice a year to induce extra traffic and sales volume to help carry store joint expenses. After the sale, the goods are restored to regular prices.

A more common practice is to obtain manufacturer's close-outs for special sales and to obtain normal markups on them. But markdowns on such goods are generally in excess of normal reductions: The time is usually late in the season with a short selling period; the assortments of sizes and colors are often unbalanced; goods may be soiled and damaged; and they do not fit into stock assortments regularly carried.

While for most stores a policy of frequent special sales is of questionable value because of the high extra expense and markdowns usually necessary, some stores thrive on it. A large store in a large city may have established itself throughout the trade as receptive to close-outs and is offered specials first and can choose the best of them. If this store is organized to handle crowds, the very volume engendered will yield a profit, in spite of promotional and other direct costs, since "overhead" is spread thin.

The offering of loss leaders is a phase of the special sale policy, with the emphasis on other goods to be sold the crowds attracted. Even though loss leaders may be priced at a loss, often standard goods are reduced for a sale period, as traffic builders. The ethics of this practice has been discussed in Chapter 8.

Maintaining assortments. A sound policy that most stores follow, and yet one that leads to markdowns, is to maintain complete assortments through the greater part of the selling season in order to obtain maximum volume. Customers demand a variety from which to select, and unless a store carries more items in stock than it can possibly dispose of before the "clearance" season, it will be unable to realize maximum sales. For example, a buyer may have found that, after a late Easter, the only way to dispose of suits is to mark them down to appeal to the bargain seekers and to those who expect to wear them only a few weeks. Even if he were able to anticipate exactly how many suits and the type of suits he would be able to sell up to Easter, he could not realize this figure unless he purchased a larger quantity. The customers who come in to buy shortly before Easter insist upon the privilege of choosing from an assortment. To sell one tailored suit in size 16, it may be necessary to have three in stock. If only one were carried, the potential sale would probably be lost as the customer would exercise her privilege to shop further. Paradoxically, stores deliberately buy more than they can sell without markdowns to realize maximum sales before markdowns. Also, they will purchase to maintain assortments in the face of a probable price decline in order to obtain maximum sales and retain customer good will.

Customers have a right to expect assortments all through the main selling period and are willing to pay for this right by paying prices that allow for markdowns on the extra stock provided, in order to make an ample selection possible. It is true that most stores have found it necessary to peak their fashion stocks perhaps two weeks before the peak of their sales, but they generally have at the peak a larger selection than they can hope to sell out at original prices It is opportune, then, to buy in quantities somewhat larger than sale possibilities at original prices, and the initial markup must be planned to protect margins after markdowns have been taken.

Long initial markup policy. A somewhat questionable but common promotion policy is that of setting a price on new goods at which only a small portion of the stock can be sold; after a few sales have been made at these "plus" prices, the balance of the stock is marked down to what is frequently a reasonable markup, but the bargain appeal attracts a different class of customers. For example, some stores buy a piece of furniture for $50 and put it into stock at $120. Soon it is offered in a departmental special sale at "33⅓ off," or $80; this is a markup of 37½ per cent, which may be nearly a normal one. Again, an evening shoe costing $10 may be priced $25 early in the fall season, reduced to $15 in midseason, and closed out for $5 in January. The average price may be about $17, providing a satisfactory markup on the entire operation and selling more shoes than would have sold at a single $17 price. Here there are attempts to cater to two classes of customers with the same goods. Those who are unmindful of price and primarily interested in style are sold first at a large margin over cost; and the remainder of the purchase is then reduced to appeal to the larger group, who insist upon getting their money's worth. There is a marked difference of opinion in regard to this policy of taking very high markups and offsetting them quickly with markdowns for special sale purposes. The store catering to a transient trade and with a considerable number of wealthy customers who care little about price may find the policy of high initial markup coupled with large markdowns profitable, but most stores would find that customers would become quickly suspicious of original prices and would buy only after markdowns were taken; customers would even question the reasonableness of marked down prices. On the other hand, it is often a wise policy to buy somewhat more than can probably be sold before the waning season requires markdowns. This is done not only to maintain assortments as long as possible, as explained above, but also to obtain the increased business that can be obtained only by offering bargains. For example, a buyer may be reasonably sure that he can sell 100 items costing $6.00 at an original retail of $10.00 but may deliberately buy 125. The 25 marked down may be sold at an average price of $7.50, an extra margin of $37.50. There is likely to be only a negligible increase in expenses; accordingly, the department may increase both sales and profits by buying a quantity that requires some markdowns. Of course, it may be argued that the extra sales could be obtained by buying only the 100 and later buying twenty-five of a new style at which the regular markup could be obtained. But in most communities, there is a large body of bargain seekers who put chief emphasis on quality not style. Their patronage can sometimes be obtained only at markdown prices at which the store cannot afford to sell the entire quantity. Some stores succeed in catering to this class by buying manufacturer's markdown goods (job lots) rather than by taking markdowns themselves. But satisfactory job lots are scarce in some seasons and many stores cannot depend upon finding them in adequate quantity.

Other policies. There are still other sales policies that lead to markdowns: multiple pricing where a number of articles bought together are sold for less than the sum of their unit prices; the policy of carrying high-priced merchandise for atmosphere but with the expectation of a big reduction in price before the goods can be sold; and the policy of making price allowances to complaining customers for good-will purposes, even though the merchandise is not at fault. Such policies may be justified as volume and profit builders, not withstanding the fact that the potential markup is reduced by their application.

Markdown analysis. A more detailed classification of reasons for markdowns appears in the table on page 176. Prepared some years ago by the Bureau of Business Research of Ohio State University, this table shows the relative importance of causes of markdowns in Ohio department stores and also the seasonal variations in the six months studied. This study has not been repeated recently.

Some large stores keep records of the amount of markdown taken for each of the reasons specified in Table II. Whenever the price of a group of goods is reduced, the buyer must decide what reason necessitates the markdown. He indicates this reason on the markdown form. There is room to question the strict accuracy of such decisions, as the buyer may be inclined to attribute the necessity for the markdown to a relatively innocuous reason such as "special sales" or "broken assortments" rather than to the actual reason, which may be that he bought the wrong fabrics, sizes, or styles.

Timing of Markdowns

An important problem in connection with markdowns is the matter of timing. There are two chief possibilities: (1) to take

Table II

REASONS FOR MARKDOWNS[a]

Percentage Distribution of the Value of Markdowns by Months
(Data from Nine Stores)

Reason for Markdown	All Months	September	October	November	December	January	February
Merchandising Reasons	%	%	%	%	%	%	%
Special sales	39.0	47.7	45.6	50.0	37.1	31.2	40.4
Multiple sales	0.2	0.1	1.1	0.1	0.1	0.1	0.1
Total special sales group	39.2	47.8	46.7	50.1	37.2	31.3	40.5
Broken assortments and remnants	26.9	8.2	14.4	13.7	26.4	36.9	31.3
Shopworn, soiled, or damaged	10.4	7.7	14.4	11.1	7.8	12.3	8.9
Style or model pieces	0.9	0.2	0.3	1.3	1.4	0.9	0.3
Total broken assortments group	38.2	16.1	29.1	26.1	35.6	50.1	40.5
Style or pattern	6.5	19.0	5.8	6.5	7.2	5.6	5.9
To meet competitors' prices	2.1	1.9	2.9	2.1	3.7	0.8	1.5
Consolidating price lines	1.7	0.1	3.6	1.5	2.1	1.0	1.7
Lower cost levels	1.1	2.3	1.9	1.5	0.8	0.9	1.1
Price adjustments unclassified	0.8	3.0	0.6	0.9	0.7	0.8	1.0
Total price adjustments group	5.7	7.3	9.0	6.0	7.3	3.5	5.3
Color	2.4	2.1	0.8	1.1	4.1	2.1	2.1
Quantities	2.4	3.2	2.9	5.3	2.7	1.2	1.0
Fabrics	0.7	1.6	0.5	0.8	1.0	0.6	0.3
Fabrics or quality unclassified	0.7	0.3	0.2	0.4	0.7	0.8	1.1
Quality	0.2	[b]	0.2	0.2	0.2	0.3	0.1
Total fabrics or quality group	1.6	1.9	0.9	1.4	1.9	1.7	1.5
Sizes	0.7	[b]	0.3	1.0	0.6	0.7	0.8
Allowances to customers	0.5	0.5	0.8	0.6	0.4	0.4	0.4
Promotional purchase remainders	0.4	2.1	1.0	0.2	0.2	0.6	0.3
Nonmerchandising Reasons							
No reason stated	2.1	[b]	2.5	1.4	2.7	2.0	1.7
Stock shortages[d]	0.3	...	0.1	0.3	0.1	0.8	[b]
Policy allowance[d]	[a]	...	0.1	[b]	[b]	[b]	[b]
Employees' discounts[d]	[b,c]	...	[b]	[b]	[b]	[b]	[b]
All reasons	100.0	100.0	100.0	100.0	100.0	100.0	100.

[a] L. H. Grinstead, *Markdowns in Department Stores.* Bureau of Business Research, Ohi State University, 1932.

[b] Less than one tenth of one per cent.

[c] Data from four stores.

[d] Technically, these are not markdowns.

markdowns early—that is, on individual styles as soon as their rate of sale slows up or after they have remained in stock a set length of time; and (2) to take markdowns late—that is, to leave goods at original prices until nearly the end of the season and then to hold a clearance sale.

Early markdowns. Most department stores and popular-priced specialty stores follow the policy of early markdowns. For women's ready-to-wear a two, three, or four-week time limit is often set. In other lines, goods are marked down as soon as they start selling slowly. The advantages of these early individual markdowns are as follows:

1. The amount of markdown per unit is less. Since the reduction is taken while there is still an active demand for the goods, a small reduction is generally sufficient to move them. Should they fail to sell, there is still time before the end of the season to take a more drastic cut. It should be observed, however, that a small percentage off the original price of goods reduced is not synonymous with small dollar markdowns over a period. It is possible that many small early markdowns may cause more loss than a few large late ones.
2. Reducing the stock through early markdowns makes room for the purchase of more salable goods, particularly of manufacturers' special offerings right after the peak of the season. The reduction makes room for new goods that increase volume.

Some Reductions in Price That Are Not Markdowns

1. Discounts to employees.
2. Discounts to certain preferred classes of customers.
3. Stock shortages.
4. Policy allowances (charged as expense).
5. Corrections of clerical errors in original pricing.
6. Reductions reflecting rebates from sellers.

3. Lower price lines may be replenished from higher ones, thus maintaining assortments at the lower prices without additional purchasing.[1]
4. Selling expense is reduced because the goods marked down early generally sell quickly and because extra salespeople do not have to be employed for a clearance sale. Furthermore, the unsatisfactory items are not shown to customers again and again at regular prices.

Were popular-priced stores to hold goods until late in the season, very large price cuts would be necessary, selling expense would be higher, and the time allotted for clearance might be inadequate, leaving a carry-over of unsalable goods.

Some stores have developed the early markdown policy to the extent of not only marking goods down a certain number of days after they are put into stock, but also of marking them down a fixed percentage. This is called an *automatic* markdown plan. In the basement store of Wm. Filene's Sons Co. of Boston, goods that fail to sell in the first two weeks after being put into stock are marked down 25 per cent; if they fail to sell at the reduced price by the end of one week more, they are marked down another 25 per cent of original retail. This process is repeated the next week, and finally anything left at the end of five weeks is given away to charity. This plan insures very careful buying, for a buyer must be reasonably sure that he can sell out each lot purchased within two weeks, without a markdown. On the other hand, the plan may be too rigid and keep buyers from taking enough chances in stocking desirable lots that may require a longer time for disposal.

Late markdowns. Although a considerable number of merchants insist that the preponderance of argument is in favor of early markdowns, many high-class stores with a clientele that is interested throughout the season in quality and style, and many small stores with little traffic, follow the policy of late markdowns. They often hold two annual clearance sales a year, in

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[1] See page 181 for a discussion of the practice of putting markdown goods into regular price lines.

January and July, and take very few markdowns in between.

The advantages of this plan are as follows:

1. The store attracts lower-end customers only twice a year to clean out its stocks. It avoids the bargain appeal entirely the rest of the year and thus maintains a policy of exclusiveness with the established clientele. Since the sales are held at times when regular customers are inactive, bargain hunters are attracted at a time when they will not be observed by regular patrons.

2. The sale of regular goods is not interfered with. Where markdowns are early, customers are likely to become suspicious of original prices and to wait until midseason, knowing that there will be substantial reductions then; thus, early season volume at good markups may be retarded. Fear of such early breaks in prices has led certain groups of high-class stores, such as the Fifth Avenue Guild, to set rigid rules to the effect that markdowns cannot be advertised or displayed before certain specified dates, late in each season.

3. The quantity of stock for clearance accumulated in a season allows the store to make the clearance an advertised event that is looked forward to by the bargain seekers referred to above.

4. The late markdown allows a long trial period; the goods are given every opportunity to sell without a markdown. In a small shop, particularly, it frequently happens that certain articles fail to sell for some time, not because they have been wrongly bought, but because by chance the customer who would be interested in the article has not yet come in; before the end of the season, she is likely to come in and buy.

Some stores have attempted a compromise between the early and late markdown policies by holding a monthly clearance sale on the last day of every month. This method has not proved popular—some styles are even then held too long; certain departments have almost nothing to contribute to the sale in some months; and the effect of such sales in the height of a season may not be desirable.

Amount of the Markdown

Since the one reason for marking down merchandise is to sell it without further delay, the markdown should obviously be large enough to yield this result. It does not follow, however, that the first markdown should be large enough to move the entire supply. For example, to be sure of selling out a lot of one hundred $5 shirts may require a reduction to $2.25. It would be wiser to mark them down first to perhaps $3.75. Half might be sold at this price and the remainder reduced to $2.50. If 25 fail to move at this price and have to be disposed of at $1 each, the total realized would be $50 more than that resulting from the drastic single markdown. One specialist in markdown control is of the opinion that the first markdown is satisfactorily large if it moves from 35 per cent to 50 per cent of the entire lot. Table III below shows the percentage reductions from original retail found necessary during a six-month period in a group of department stores.

In general, larger percentages of reductions are necessary in the high-price ranges than in the low ones. For example, a $19.75 coat that fails to sell may be "cleared" at $16.75, a re-

Table III

MARKDOWNS AS A PERCENTAGE OF THE ORIGINAL RETAIL VALUE OF THE MERCHANDISE REDUCED IN PRICE
(In Ohio department stores in 1932)[a]

Total	23.4
Small wares	35.2
Miscellaneous merchandise	31.9
Dry goods	27.9
Women's and misses' apparel accessories	27.7
Shoes	26.0
Home furnishings	22.8
Basement merchandise	21.1
Women's and misses' apparel	20.2
Men's and boys' apparel	19.8

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[a] L. H. Grinstead, *Markdowns in Department Stores.* Bureau of Business Research, Ohio University, 1932, page 38.

duction of about 15 per cent; but a $100 coat may have to be reduced to $75, a reduction of 25 per cent.

As already indicated in connection with price lines, customer demand is grouped into price zones. In general, it may be concluded that a markdown from one price in a zone to a lower price in the same zone is adequate only when the supply to be cleared is small and when it is believed that the same people who rejected it at the original price will find it a good value at the reduced price. But when the supply is large and the style questionable, the goods should be marked down into a lower zone, where a new customer group will be attracted to the unusually good quality now available at this price range.

Special markdown prices. There is difference of opinion as to whether to put markdown goods into a regular price line or to segregate the goods into special prices reserved for markdown goods. Since customers may be roughly classified into two groups: those who seek style primarily, and those who seek quality first, it would seem wise to segregate the markdowns in the case of fashion merchandise, such as dresses and millinery. Thus the bargain seeker who knows values finds an assembled assortment from which to choose, whereas the style seeker looking over the assortment in her price zone is not forced to inspect garments of questionable style, the chief attraction of which is materials and workmanship at the price.

If separate prices are set for markdowns, both salespeople and customers get to recognize "bargains." Also stock and sales analysis is facilitated; in determining the relative importance of regular price lines, the merchant does not find the sales and stock figures distorted by marked-down goods.

There are times when it is unwise to segregate marked-down goods. For example, early in the season a store may have put into stock suits at $79.50 and $89.50. The $79.50 price may be much more popular, and $80.00 be proved a limit above which the store can obtain little business. Accordingly, it is wise to reduce the $89.50 suits to $79.50, but it is not desirable to segregate them as marked-down bargains. Here they are not being marked down because they are wrong in style but because the original price was above the price limit of the group of customers on whom the store had to depend.

Again, segregation may not be necessary in the case of shopping goods that do not change frequently in style. For example, in marking down an article of house furnishings, such as a rug, it may be wise to reprice the item into a regular price line. Here, there is not the marked distinction between bargain hunters and style hunters, so it is not necessary to keep new stocks separated from old.

It may be concluded that early season markdowns taken to consolidate price lines, and markdowns on semi-staples do not require segregation, whereas midseason and late markdowns taken to dispose of fashions that are questionable in style or that are becoming unseasonable may well be segregated.

One-price Policy

Bargaining. One of the most important aspects of markdown policy has to do with taking a price reduction on the spot in the presence of the customer at the time of sale rather than in advance, thus giving the customer the impression that she is getting a special price not offered to others. Up to fifty years ago, bargaining by customers was generally practiced in retail stores, and it is still much more common than generally supposed. In some stores, minimum selling prices are indicated in code on price tickets, and salespeople's remuneration depends upon how high a price they can get above the minimum. In a number of specialty stores, T.O. (turnover) men are employed who have authority to reduce a price quoted by the first salesman contacting the customer. For example, a fur coat costing $100 may be offered at $250. If the customer shows interest in the coat but objects to the price, the salesperson calls a T.O. man, who poses as an important executive. The T.O. man handles the sale, agreeing to sell the coat for $200, as a special concession to gain a new customer. If the customer still refuses, a second T. O. man may be called who makes a further concession, and a sale may be finally consummated at a price that seems to be a great bargain but that still represents an adequate markup for the retailer. In some foreign countries, the customers regularly offer half the retailer's asking price. In one particular store, for example, the buyer and seller throw dice to see which of the two prices is to prevail. The seller is insulted if his asking price is accepted without providing him the chance to participate in his game of dice.

Confidence in one-price policy. While the opportunity to bargain is welcomed by customers endowed with a trading or sporting instinct, there is no doubt that the majority of customers lose confidence in such a store. They recognize their own inability to judge values and are by temperament unwilling to enter into a battle of wits upon every purchase. If a store has to depend upon repeat patronage rather than upon catch-as-catch-can transient trade, it must at least approach a policy of adhering to prices it quotes customers. With the exception possibly of shops in the amusement centers of metropolitan cities, a store must create in the customer's mind a belief that the price quoted him is the same as the price quoted every other customer, that the price is fair, and that it is not subject to reduction by haggling.

Such a policy, however, does not preclude price reductions. It simply means that the reduction will not be made at the time of sale. If a number of customers refuse to buy, the price will be reduced between attempts to sell, and new customers will be quoted a lower price.

There is danger of some customer dissatisfaction at the time the price is reduced. For example, in April, a customer may buy a suit for $39.50, and the next day the remaining suits may be marked down for clearance to $29.50. When the customer comes in again, perhaps to take delivery on her suit purchased the day before, she may notice the same merchandise selling at $29.50. Should the store refuse a reduction to her, she could generally insist upon a return and refund of $39.50 and then buy the same garment for $10 less. To handle such situations, a store may adopt the following rules:

1. Plan the time to take markdowns on each different class of goods and take the goods to be marked down off sale for a few days before the reduction is announced. Thus, a customer does not see the duplicate of her purchase offered the next day or hour at a lower price. The time interval justifies a lower price some days later.

2. Where price reductions occur within a week of sale or within some other specified time, refund the difference without argument to any customer who complains. This does not mean, however, that the store will take the initiative and make refunds to all customers who bought shortly before a price reduction.

Modification of one-price policy. The one-price policy, which is well suited to the department store and any other store that enjoys considerable customer traffic, may need some modification in the case of the small shop that does not have a flow of shoppers and attracts largely on a basis of personal service. For example, in a dress shop the manager may be contemplating marking down a $16.75 dress to $14.75 in the middle of a season, because it has been on hand for over a month and has been passed up by a number of customers. The price reduction has not yet gone into effect, because the manager hopes that a customer will still come in who feels that the dress is becoming to her and worth $16.75. At this juncture a customer may try on the dress and indicate willingness to buy it but state that she cannot afford a penny more than $15.00 and will buy only if the price is "shaded" to this point.

In a large store, it is good policy to refuse her offer; there is reasonable assurance that when the price is reduced some one of the customers thronging the store will buy. But in the small shop, there is a question as to whether *the* customer for this dress will be found at $14.75, or even at $12.75. The merchant is faced with the dilemma of whether to maintain a policy or realize at once a sale at as good or better a price than he is likely to realize by refusing the concession. A certain flexibility in policy may be necessary to meet such situations as this. The following is suggested for the small ready-to-wear shop:

1. No concessions will be made on new, seasonable goods except as follows:
    a. When the customer buys more than one article, when a "two-for" or multiple-price arrangement may be made. For example, dresses may be sold at $16.75, $10.75, and $7.75; but two $16.75 dresses will be sold for $30; two $10.75 for $20.00; two $7.75 for $15.00; one $16.75 and one $10.75 for $25.00; one $16.75 and one $7.75 for $23.00; and one $10.75 and one $7.75 for $17.50. Where a larger number are being bought at once, a special group price may be set by the manager. Such a policy may also be used in a large store to increase the average sale. Such concessions should be given to all customers who buy the required quantity and not only to customers who object to regular prices.
    b. In the case of single item sales, a reduction may be made in the usual alteration charge if the sale depends upon it, but no change will be made in the price of the goods.
2. Concessions on slow-selling and unseasonable goods may be made only as follows:
    a. If the goods will probably have to be marked down, a reduction will be made when the goods are clearly wanted by the customer but where the price is more than she is willing to pay. But the authority to make such changes will be limited to the manager, and it will always be explained to the customer that the reduction is being made because the item has been on hand for some time and that she cannot expect reductions on fresh goods.
    b. If the goods have been marked down already, a further concession will be allowed customers only if the goods have failed to sell at the reduced price in a reasonable period—perhaps two weeks.
    c. The "two-for" plan will be extended to marked-down goods as well as to goods at original prices.

With such rules as the above, it is possible for the small shop to adjust itself to each situation without establishing a reputation of having no established prices.

Even in a large store, some deviation from a strictly one-price policy may be necessary in the case of quantity purchases. For example, a man who wanted a piano found two friends who were also in the market. They went to one of the largest stores in New York and offered to make a group purchase if a special price could be arranged. This was readily accomplished. Such transactions in a big store are best handled through a contract department to whom the quantity buyer is referred. Such a department works with each selling department to set a lower price than the regular retail one. Stores frequently outfit hotels and public institutions this way as well as individual customers who buy in large quantities.

Markdown Calculations

Markdowns on sales. It is standard practice to express markdowns and other retail reductions as a percentage of net sales, not as a percentage of original retail. Thus, if goods retailed at \$50,000 are reduced \$10,000 and sold for \$40,000, the markdowns are stated as 25 per cent, not 20 per cent. If a merchant reduces his retail prices 20 per cent during a period, it does not mean that his markdowns will be 20 per cent. If all the goods sell, the markdowns will be 25 per cent:

$$\begin{aligned} \text{Let } \$100 &= \text{original retail} \\ \text{And } \underline{\$20} &= \text{reduction} \\ \text{And } \$80 &= \text{sales} \\ \text{Markdown per cent} &= \frac{\$20}{\$80} = 25\% \end{aligned}$$

On the other hand, if only one-half of the goods are sold, thereby bringing in \$40, the markdowns will be \$20 ÷ \$40, or 50 per cent of the sales.

It does not follow that markdowns as a percentage of sales are usually larger than markdowns as a percentage of original retail.[2] Thus, a merchant may slash one-quarter of his retail stock 50 per cent of the original retail price, and sell all the reduced goods and half of the nonreduced goods:

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[2] There is an interesting relation between (1) the markdown percentage, (2) the percentage that is taken off the original retail price of goods to sell them, and

Total stock	\$100.00
Amount of stock reduced	25.00
Markdown (50 per cent of \$25.00) ...	12.50
Sales—reduced goods	12.50

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(3) the per cent of sales of marked-down goods to total sales. These three ratios may be designated as follows:

$$A = \text{Markdown per cent} = \frac{\$\ \text{Markdowns}}{\$\ \text{Sales}}.$$

$$B = \text{Per cent off retail} = \frac{\$\ \text{Markdowns}}{\text{Original retail of goods marked down}}.$$

C = Markdown goods per cent =

$$\frac{\text{Original retail of marked-down goods} - \$\ \text{Markdowns}}{\$\ \text{Sales}}.$$

$$\therefore \$\ \text{Sales} = \frac{\$\ \text{Md.}}{A} = \frac{\text{Original retail} - \$\ \text{Md.}}{C},$$

and

$$\text{Original retail} = \frac{\$\ \text{Md.}}{B}.$$

By substitution:

$$\frac{\$\ \text{Md.}}{A} = \frac{\frac{\$\ \text{Md.}}{B} - \$\ \text{Md.}}{C} = \frac{\$\ \text{Md.} - B\ \$\ \text{Md.}}{BC},$$

and

$$BC \times \$\text{Md.} = A\ \$\ \text{Md.} - AB\ \$\ \text{Md.}$$

$$BC = A - AB = A\ (1 - B).$$

$$A = \frac{BC}{1 - B}.$$

$$B = \frac{A}{A + C}.$$

$$C = \frac{A\ (1 - B)}{B} = \frac{A}{B} - A.$$

For example, if a store takes 25 per cent off the retail of goods to sell them (B), and if 35 per cent of the sales are in marked-down goods (C), the markdown percentage (A) is

$$\frac{.25 \times .35}{1 - .25} = \frac{.0875}{.75} = 11.7\%.$$

Again, if the markdown per cent is 8, and 50 per cent of the sales are in marked-down goods, the percentage taken off the retail is found as follows:

$$B = \frac{.08}{.08 + .50} = \frac{.08}{.58} = 13.8\%.$$

Again, if A is 10 per cent and B is 30 per cent,

$$C = \frac{.10}{.30} - .10 = .33\tfrac{1}{3} - .10 = 23\tfrac{1}{3}\%.$$

—regular goods (½ of $75.00) ..	37.50
Total	$50.00

Markdown per cent ($12.50 ÷ $50.00 = 25%).

Figuring Net Markdowns

A furniture dealer slashed 20 per cent off the retail price of everything in stock for a sale. This involved total price reductions of $20,000. During the month, his sales were $25,000. At the end of the month, he remarked three-fifths of the remaining stock back to the original prices and left the rest at the reduced prices for clearance. He figured his markdown per cent as follows:

$20,000 ..... 20 per cent off original retail

Original retail	$100,000
Gross markdowns	20,000
New retail	$ 80,000
Sales at new retail	25,000
Remainder	$ 55,000
Amount marked back (⅗ths)	33,000
Markdown cancellations (33,000 × 25%)* ..	8,250
Net markdowns (20,000 — 8,250)	11,750
Markdown per cent (11,750 ÷ 25,000)	47%

* 20 per cent off original retail = 25 per cent of sales.

Recording of Markdowns

In order that merchandising executives may review the markdown policies followed by their buyers, it is important that the store introduce a careful system of recording and reporting markdowns. Such a system is also necessary in connection with the calculation of inventory records and the determination of stock shortages to be discussed in Chapter 12.

Control of repricing. The usual procedure is for the buyer or department manager to fill out a markdown form indicating the old price, the new price, the quantity reduced; and the reason for the reduction. See Figure 17 (in Chapter 14) on page 257. In many instances this is simply a request that must be approved by a superior before the markdown is taken. In order to make sure that all markdowns reported agree with the actual price reductions made, some stores have repricing done by a special remarking squad: The requisition approved by a merchandise manager is turned over to the head of this squad; the goods in question are counted, checked against the requisition, and repriced; and the requisition is forwarded to the controller's office. Probably a more common practice is for a merchandise checker to check the amount of the goods to be reduced against the buyer's requisition and to leave the actual repricing to the sales staff in the department.

Old vs. new price tickets. In repricing the merchandise, there are two possibilities: one is to note the new prices on the old tickets and the second is to replace all old price tickets with new ones. The first is the simpler plan and allows the customer to note the amount of the price reduction and thus have greater interest, if bargain conscious. But it is so easy to remark a price ticket that there is danger of unauthorized markdowns being taken. Various ingenious ways to guard against this have been devised: some stores allow the use of a specially-colored ink or pencil only; others use a hand printing device that can be applied to a price ticket without removing it.

The policy of removing old tickets and attaching new printed ones provides excellent control and an air of authenticity to all prices. Also, many stores believe that it is unwise to attempt to sell merchandise on a basis of comparisons with former prices. The value of merchandise fluctuates over time; the fact that a coat once was offered for $79.50 provides no reason, it is argued, why the customers should buy it today for $59.50. Many stores prefer to give the impression that *all* prices are as low as present conditions warrant and to give no extra preference to marked-down goods. On the other hand, many customers do exhibit interest in former prices and some stores feel the customers have a right to the information. It should be noted that even when a new ticket is attached, an old price can be shown with a printed line drawn through it.

REVIEW QUESTIONS

1. Into what two major groups may reasons for markdowns be classified?
2. What are the chief errors leading to markdowns, classified as follows:
    a. Buying errors?
    b. Pricing errors?
    c. Selling errors?
    d. Stock control errors?
3. What is the relation:
    a. Between competitive price policy and markdowns?
    b. Between special sales policies and markdowns?
    c. Between assortment policy and markdowns?
    d. Between initial markup policy and markdowns?
    e. Between multiple sales policy and markdowns?
    f. Between prestige-merchandise policy and markdowns?
    g. Between customer allowance policies and markdowns?
4. *a.* What do buyers report as the five major reasons for markdowns?
    b. What limitations are there to an analysis of markdowns by reason?
5. Name five classes of price reductions that, technically, are not markdowns.
6. What is the case for taking early markdowns?
7. Explain the automatic markdown plan.
8. What is the case for taking late markdowns?
9. On an average, what percentage is merchandise reduced to move it?
10. Should the first markdown be large enough to move the supply?
11. Are there any logical reasons for markdown cuts being higher in small wares and dry goods than in apparel lines?
12. What is the relation between price zones and the amount of markdown necessary?
13. What are the advantages and disadvantages of establishing special markdown prices?
14. How do *turnover* men operate?
15. Does a one-price policy put any limits on taking markdowns?
16. Suggest two ways to avoid customer dissatisfaction when purchases are made shortly before markdowns are taken on similar goods.

17. Is it a sound argument for a small store to make some deviations from a strictly one-price policy? How might such deviations be made without developing a reputation for bargaining?
18. How do large stores handle the matter of quantity discounts?
19. Explain why the markdown percentage is a very different concept from that of percentage taken off the original price.
20. Show the relation between (*a*) the markdown percentage; (*b*) the percentage off original retail; (*c*) the percentage of sales of markdown goods to total sales.
21. Why do markdowns need careful control?
22. Explain the requisition system of controlling markdowns.
23. What are the pros and cons of using new price tickets when goods are marked down?

PART THREE

Inventory is the merchants' stock in trade. He must (1) count it, (2) record it, and (3) value it. The retail method of inventory, a merchandising device involving all three of these activities, receives detailed treatment in this section.

INVENTORIES

11

How to Take Inventory

Functions of Inventory

The counting and recording of the amount of stock on hand at a given time is an essential feature of retail merchandising. The first function, and the basic one in connection with inventory, is to determine the total value of the stock on hand so that the balance sheet and departmental, storewide, and company-wide profit-and-loss statements may be prepared.

A second function of a physical inventory is to familiarize the manager and salespeople with just what is in stock. Some articles may seldom be called for by customers and may remain unnoticed in stock indefinitely, unless there is a formal, complete examination of all the stock at regular intervals. The inventory brings these items to attention and not only leads to positive efforts to sell them but also leads to better service, since salespeople become more fully aware of their entire stock assortment.

The third function of the physical inventory is to analyze the stock in each department in order to control both buying and promotional activities. In the case of the store-wide inventory, the analysis is generally by classification, age (season letter), and sometimes price line, in order that the stock assortment may be better adjusted to customer demand and in order that an accumulation of old stock may be avoided by positive efforts to realize a better stock turnover. In the case of frequent inventories taken in connection with a unit control system, the inventory may be analyzed by other characteristics such as style, color, and size. Such inventory analysis becomes the basis for merchandising, that is, for planning what to buy and what to promote. Figure 9 gives an example of an inventory analyzed by classification and age. The column headings 6, 12, 1–12, 18, and over 18 represent the upper limits in months of each age group.

The Functions of Physical Inventory

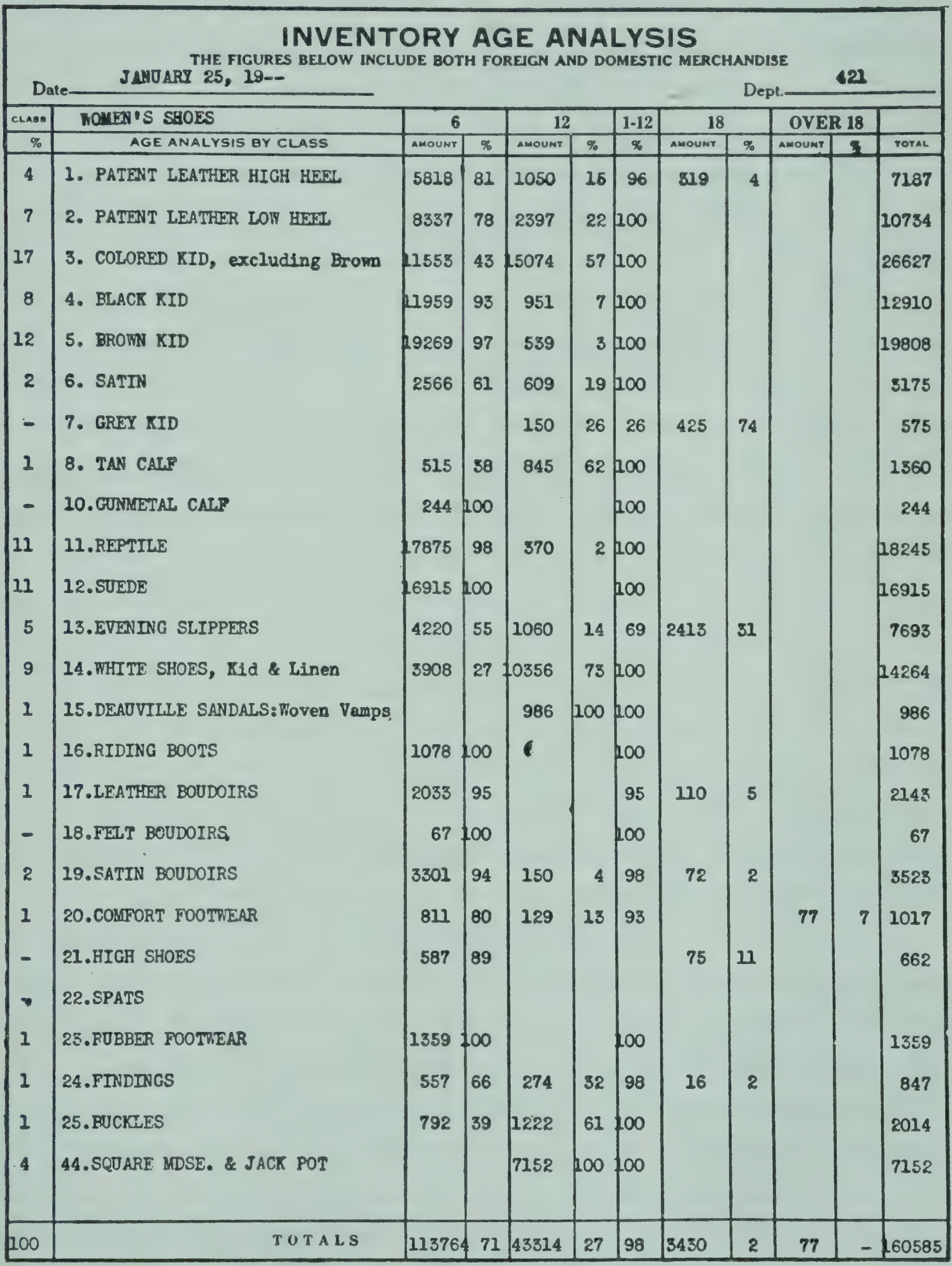
1. Preparation of financial statements.
2. Familiarizing personnel with everything in stock.
3. Stock analysis for merchandising.
4. Sales analysis for subgroups.

A fourth function of the physical inventory is to estimate sales for groupings of merchandise in which it is impracticable to keep separate sales records. Sales records are kept for an entire store and for each department, but they may not be maintained for subdivisions of a department, for a price line, or for a specific item. If physical inventories are taken for these breakdowns at regular intervals and purchase records are maintained for each, the sales may be derived. For example, a month ago when the stock was counted there may have been 24 of a certain article on hand. When counted today, 18 may be in stock. Purchase records may reveal that 36 were received into stock during the month. The sales, then, may be approximated by adding the purchases to the former inventory figure and subtracting the new inventory: $24 + 36 - 18 = 42$, the approximate sales. This use of inventories will be more fully explained in the next chapter.

Physical Inventory at Cost

Physical inventories may be counted at cost prices, at retail prices, or in units. For profit figuring purposes, the value of the inventory is the important consideration. For planning specifically what to buy and what to promote, the units on hand are of major significance.

The oldest plan, and probably still the most common one, is to take inventory at cost prices. These may be determined in



INVENTORY AGE ANALYSIS

THE FIGURES BELOW INCLUDE BOTH FOREIGN AND DOMESTIC MERCHANDISE

Date JANUARY 25, 19-- Dept. 421

CLASS	WOMEN'S SHOES	6		12		1-12	18		OVER 18		
%	AGE ANALYSIS BY CLASS	AMOUNT	%	AMOUNT	%	%	AMOUNT	%	AMOUNT	%	TOTAL
4	1. PATENT LEATHER HIGH HEEL	5818	81	1050	15	96	319	4			7187
7	2. PATENT LEATHER LOW HEEL	8337	78	2397	22	100					10734
17	3. COLORED KID, excluding Brown	11553	43	15074	57	100					26627
8	4. BLACK KID	11959	93	951	7	100					12910
12	5. BROWN KID	19269	97	539	3	100					19808
2	6. SATIN	2566	61	609	19	100					3175
-	7. GREY KID			150	26	26	425	74			575
1	8. TAN CALF	515	38	845	62	100					1360
-	10.GUNMETAL CALF	244	100			100					244
11	11.REPTILE	17875	98	370	2	100					18245
11	12.SUEDE	16915	100			100					16915
5	13.EVENING SLIPPERS	4220	55	1060	14	69	2413	31			7693
9	14.WHITE SHOES, Kid & Linen	3908	27	10356	73	100					14264
1	15.DEAUVILLE SANDALS:Woven Vamps			986	100	100					986
1	16.RIDING BOOTS	1078	100			100					1078
1	17.LEATHER BOUDOIRS	2033	95			95	110	5			2143
-	18.FELT BOUDOIRS	67	100			100					67
2	19.SATIN BOUDOIRS	3301	94	150	4	98	72	2			3523
1	20.COMFORT FOOTWEAR	811	80	129	13	93			77	7	1017
-	21.HIGH SHOES	587	89				75	11			662
-	22.SPATS										
1	23.RUBBER FOOTWEAR	1359	100			100					1359
1	24.FINDINGS	557	66	274	32	98	16	2			847
1	25.BUCKLES	792	39	1222	61	100					2014
4	44.SQUARE MDSE. & JACK POT			7152	100	100					7152
100	TOTALS	113764	71	43314	27	98	3430	2	77	-	160585

FIGURE 9. Inventory Age Analysis.

one of two ways: The usual plan is to indicate in code the cost price of each article on each price ticket attached to each item in stock; when merchandise is counted at the end of each annual or semiannual period, the cost prices are listed on the inventory sheet, and the total cost price is thus determined. The second way is to place a number on each price ticket that will allow reference to a separate record of cost, such as the invoice, the order, a cost book, or unit control record.

Cost codes. There are three types of codes in common use. The first is composed of a word or phrase of ten letters, each of which represents a consecutive digit. A well-known code is MAKE PROFIT. The cost $19.50 would be written MIPT. To avoid repeating the same letter twice, another letter such as X may be used for the second of two identical numbers. For example, $22.00 may be written AXTX. There are innumerable codes of this sort. A few examples are MONEY TALKS, REPUBLICAN, and GOD HELP US with X used for zero.

A second type of code is composed of symbols, one for each digit. Here is one:

1	2	3
4	5	6
7	8	9

0 = X

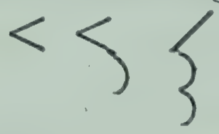
The price $19.50 is written ⌟ ⌜ □ X.

Symbol codes are easy to learn, but they take more time to write than letters or numbers.

A third type of code is a transformation of the cost digits by addition, subtraction, multiplication, or division. For example, the number 3 may be placed in front of the cost $19.50 and this amount added to each digit, dropping the tens. The code would appear as 34283. If the prefix 6 is used, the same cost would appear as 67516. In other codes of this nature, the costs are multiplied or divided by 2. A simple plan is to put two meaningless numbers in front of the cost and one afterwards, omitting the decimal point—$19.50 could be written 3619507.

This might be regarded as a serial number by the uninitiated.

Types of Cost Codes

1. Letter code:
   M E R C H A N T S X
   1 2 3 4 5 6 7 8 9 0
   ANH = $6.75
2. Symbol code:
   A curved line ( )) = 1, and a straight line slanted either right and left (/ or \) = 3.
    = $6.75
3. Number code:
   496753 = $6.75 bought in March, 1949

Buying and selling units. Many items are bought by the dozen or gross and sold by the piece. This raises the question as to whether cost prices on codes should be kept in terms of the buying unit or of the selling unit. For example, if of goods costing $22.75 a dozen and selling for $2.95 each, four are on hand in inventory, should the determination of unit cost be done at inventory time or in advance? The safer practice is to translate the cost per buying unit into the cost per selling unit when the goods are put into stock, otherwise there is danger of confusion and overstatement of the cost of the inventory. In the example, the cost might erroneously be computed as $9.10 (2.275 x 4) and the retail correctly as $11.80!

But to change cost per buying unit to cost per selling unit commonly involves uneven numbers. Thus, a cost of $22.75 a dozen is $1.895833+. If this were rounded out to $1.90 for code purposes and a large quantity were involved, there would be a sizeable cumulative error. As a rule of thumb, the cost per unit should be carried out to four decimal places; this is cumbersome and yet probably more satisfactory than attempting to make the adjustments by indicating the nature of the buying unit during the physical inventory and changing the cost to that of the selling unit after the count is taken.

This problem is eliminated when goods are inventoried at retail price only, as will be explained in connection with the retail method of inventory.

Serial and reference numbers. Instead of using codes, some stores handling staple goods primarily assign a serial number to each staple item carried and keep a control card for each item that shows the manufacturer, description, cost price per unit, and quantities and dates of purchase. This serial number is placed on the price ticket or on the bins in which the merchandise is stored. As the inventory count is taken, the serial numbers and quantities of each are recorded and the office fills in the cost prices from its record. Since the goods are usually arranged by serial number, it is easy to find the corresponding cost records quickly. In some operations, the order is reversed; the office, from its records, draws up the sheets for physical inventory entering all the serial numbers carried and the cost of each. The inventory counters then simply fill in the quantities of each item on hand.

While this method is satisfactory for staples, it requires considerable record keeping and would be unwieldy for items that are not carried in stock over a long period.

Instead of using serial numbers for each item, some stores record on price tickets the serial numbers assigned to each invoice. If a line number on the invoice is added, it is possible to refer to this original record to determine the cost. Instead of the invoice number, some use the serial number of the buyer's order, which, like the invoice, gives detailed cost information.

Still another plan is to put on the price ticket a code indicating the manufacturer of the merchandise and also his style number. This allows reference to a unit control record maintained for each style.

Except for the serial numbers for staples, these methods are better suited for reordering purposes than to determine cost value at inventory time. It takes too long to look up the records.

First-in-first-out method. Where items in an inventory are identified neither by cost codes on price tickets nor by reference numbers, and where different portions of a stock have been purchased at different prices, the assumption usually made is that the goods bought first sold first and that the more recent purchases are still in stock. This is called the FIFO (first in, first out) method. For example, on January 31, there may be on hand 500 of a staple item. Reference to invoices may reveal the following facts:

January	1	last	year	purchased	400	at	$1.10
September	1	"	"	"	100	at	1.14
October	1	"	"	"	250	at	1.12
December	1	"	"	"	200	at	1.18

Since 500 are still on hand, it is assumed that all of the December and October purchases are still in stock and fifty of the September purchases. Thus, the cost value is as follows:

December	1	quantity	200	at	$1.18 =	$236
October	1	"	250	at	1.12 =	280
September	1	"	50	at	1.14 =	57
		Total	500			$573

Another way of handling items, the costs of which are not identified, is the LIFO method discussed in Appendix C. The retail method of inventory is still another, and much more common, method.

Physical Inventory at Retail

It is the growing practice to take the inventory for profit and loss purposes at retail prices, rather than at cost prices. The aggregate retail value of the stock is then reduced to cost in a manner presented in a later chapter. The taking of physical inventory is quicker when the goods are counted at plainly marked retail prices and it is more accurate since no coding and decoding is required; neither is reference to other records required.

Inventory Procedures

Large stores have developed elaborate and exact procedures to take physical inventory at retail, so as to avoid error. The following paragraphs explain them. Much of the procedure is applicable to the small store as well.

Time of inventory. In many stores, it is the practice to take two inventories a year. In department stores, these inventories are generally at the ends of January and July. Some stores have only one, an annual inventory, and there are still a few small ones that take no complete inventory, merely guessing the value of the stock on hand when making out their income-tax reports.

In some specialty stores, and in fashion departments of others, it is desirable to take frequent inventories—every three months, every month, or every week. These frequent counts are primarily a phase of unit control to keep the stock balanced to sales, and to discover shortages rather than to work out financial statements. They frequently do not require the detailed listing of every item. For example, a ready-to-wear department may arrange its stock by classification and price lines within each classification and count weekly the number of garments at each price line within each classification. At the annual inventory, more details may be required, such as season letter and possibly style number; and closer supervision to insure accuracy may be demanded.

Inventory requirements. The two requirements for physical inventory are (1) accuracy in the listing, and (2) completeness in counting all the stock regardless of its physical location. The assurance of an adequate physical count, then, depends primarily upon careful advance preparation.

In a small store it is important to go over the complete stock in advance, sorting it by price and type, attaching any price tickets that may be lacking, taking markdowns on slow-selling stock, and pulling out of dark corners and bins anything that has been stored away and is likely to be overlooked at the time of counting.

In a large store a more elaborate procedure is necessary because of the many people involved. The advance preparation involves five groups of activities: (1) classifying the merchandise; (2) preparing a layout chart of fixtures; (3) requisitioning and checking of inventory supplies; (4) instructing the force of people who will make the count; and (5) adjusting stock prices.

1. Classification involves sorting the goods carefully by type, price, and style. In some stores the buyer is required to submit to the controller a classification table before each inventory or at least to indicate any changes in the former classification. For example, a classification of a luggage department may appear as follows:

Men's cases.
Men's traveling bags.
Men's kit bags.
Men's Gladstone bags.
Women's week-end cases.
Women's overnight cases.
Enamel cases.
Overnight bags.
Boston bags.
Hat boxes.
Picnic baskets.
Miscellaneous.

2. The layout chart involves a detailed plan on paper of the fixtures in both forward and reserve stock. Figure 10 illustrates the floor plan for a part of a department. Each section is assigned a fixture number, each fixture division a letter, and each subdivision (drawer, bin, or shelf) an Arabic numeral. These plans are prepared by the buyers and authorized by the controller. Inventory listing sheets or tags are assigned to each numbered subdivision, and a separate sheet is provided for each classification of goods if more than one is found in a subdivision, and a record kept of the sheets in each place.[1] As listings are completed, the buyer checks off the sheets, so that any missing sheet is at once apparent. This plan insures that the inventory will be complete. It also aids in personnel supervision, since each employee may be assigned to a clearly charted section.

3. A third preliminary to the inventory is for the buyer to requisition the required number of inventory sheets and deduction sheets

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[1] Sheets should be assigned even if there is no merchandise in some section.

for goods sold after a part of the count has been completed. These sheets are distributed to buyers a few days in advance, after the serial numbers have been recorded by the controller to check on the return of all the sheets. The buyer must also requisition and test scales, measuring machines, and weights for correct counting, and requisition any clerical assistance he may need in listing.

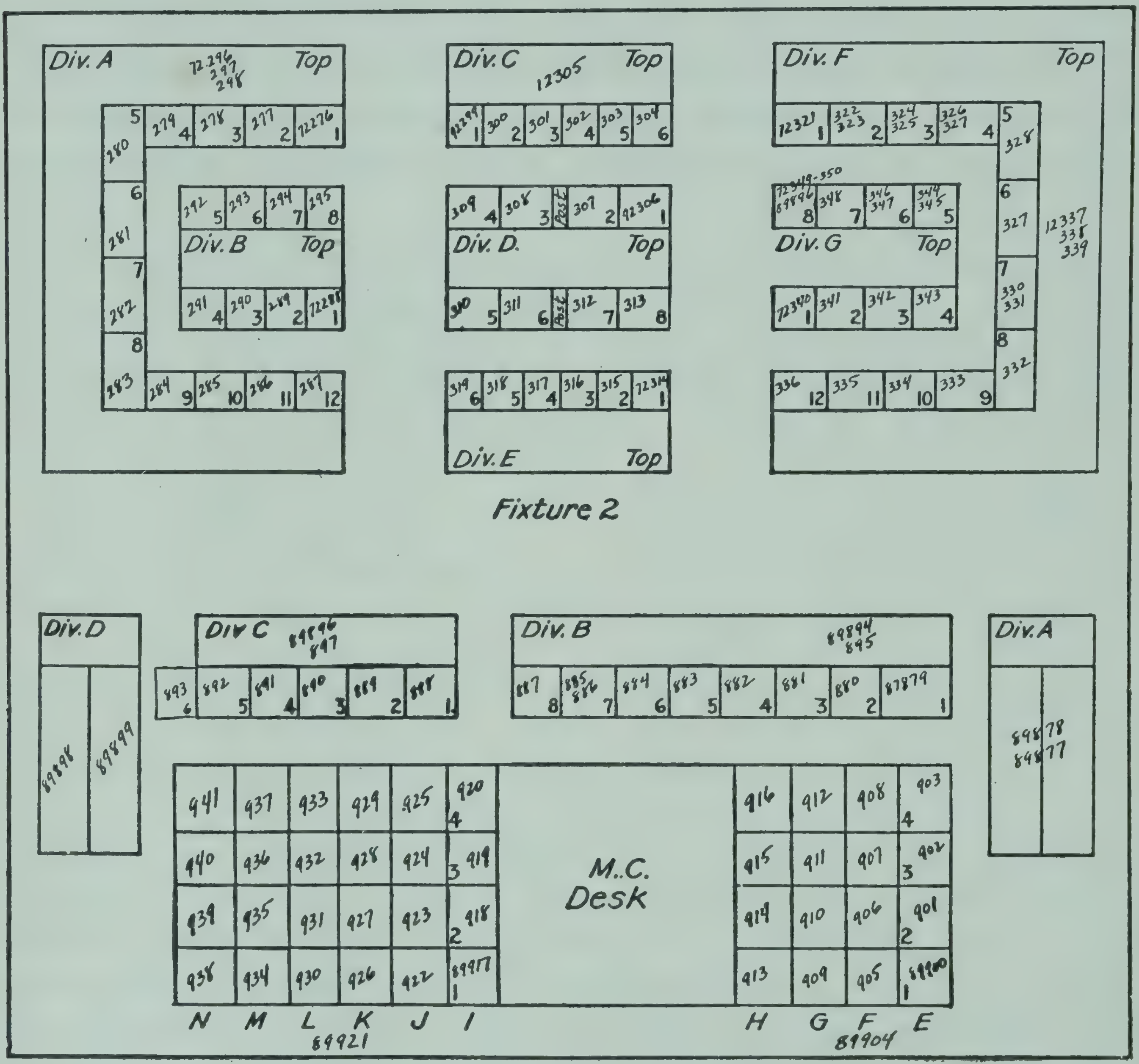


FIGURE 10. Floor Plan for Inventory.

4. To insure that everyone is fully informed in regard to his duties, inventory instructions are sent to buyers and to salesclerks who are to count the goods. In some stores, the instructions to buyers cover a number of pages and summarize much of the subject matter discussed here. An example is given in Figure 11.

Instructions to salespeople and others in regard to counting must be provided. See Figure 13 in connection with the discussion of *counting and listing*.

INVENTORY INSTRUCTIONS TO DEPARTMENT MANAGERS

Mr. ...., Dept. ....

To be of any value whatever, the inventory to be taken .... (date) .... must be accurate. Listed below for your convenience are some of the factors, in addition to correct listing of the stock in your department, that affect the accuracy of the final figures:

1. Merchandise out for repair, and so forth.
2. Merchandise in windows and on display in other departments.
3. Merchandise in advertising office and comparison bureau.
4. Merchandise returned by customers and held in adjustment bureau or at return desks.
5. Merchandise in your office or elsewhere that is included in your stock figures, but would not be otherwise included in the inventory.
6. Merchandise in marking room for which invoice has been O. K.'d and stamped "Old Stock."
7. Has reserve stock been inventoried? (See that there are no transfers between reserve and forward stock after reserve stock has been listed.)
8. Has stock in warehouse been inventoried? (Same precaution against transfer after listing.)
9. Go through your entire stock now, dislodge the pups and see that markdowns are put through and merchandise actually remarked before inventory. Don't wait until you discover it in the listing process, for then it must go over into the new year. No matter how willing the Controller may be to accommodate you, the income tax regulations absolutely prohibit any such adjustment. The merchandise must have been exposed for sale prior to inventory at the price at which it is listed in inventory.
10. See that you have cleaned up all claims, transportation claims, adjustments with customers, and approvals as far as they affect your stock or your figures.
11. If any of your stock must be listed prior to the actual closing hour, see that you have a supply of Temporary Inventory Tags, which may be obtained from the Controller's office. Never permit the use of scrap paper for this purpose. See that any sales made after listing are noted in the space provided on the tag.
12. Send to the Controller's office in plenty of time during the last day for your supply of inventory sheets and instruction sheets. Be sure the numbered sheets are distributed in numerical order. When the listing is completed and checked, mark the last sheet used, "Last Sheet," and sign it. Any sheets of an *earlier* serial number that are not used should be marked "Void." All numbered sheets received by you must be returned to insure accuracy in the tremendous task of checking and calculating which must be done by the Controller's office. Please keep this for reference.

Yours for accuracy,

(Signed)............................
Title.

FIGURE 11. Inventory Instructions to Department Managers.

5. A fifth preliminary to the inventory is for the buyer to get the stock in shape by taking care of the following points:

a. All necessary markdowns should be taken well in advance of the inventory so that the count may reflect salable value of the stock. This should not be done just before or even after the count for fear that the office may not get the report and that income-tax inspectors may think the markdowns are being taken solely to cut down on the profit showing. One store allows no markdowns or cancellations during inventory week except to meet price competition or to mark down worthless goods to zero. Broken and unsalable items should be marked down to zero unless there is hope of realizing something on them. Where goods in reserve are carried at higher prices than those at which identical goods have been selling in forward stock (because of competition or special sale) for thirty days or more prior to inventory date, the reserve merchandise should be marked down to correspond to forward stock. However, where the lower price for forward stock is simply a temporary reduction and there has been no depreciation in the cost value, the reserve may be inventoried at the higher retail price at which it is still carried. The store should insist that all records of price changes, whether markdowns, cancellations, or revision of retail, get to the controller's office *by* inventory date.

b. All pending claims with vendors or with other departments must be cleared up. Necessary returns or transfers to other departments should be made well in advance; goods should be received back from cleaning and alteration departments; memorandum and consignment purchases unsold should be returned or definitely charged in as purchases, if not previously so handled; goods in the hands of manufacturers for repair should be charged back to them or carefully included in the count of stock when made. No repairs should be sent out or received back just before inventory; this rule will give the office ample time to have its records accurate. Merchandise borrowed from other departments should be returned and goods loaned brought back.

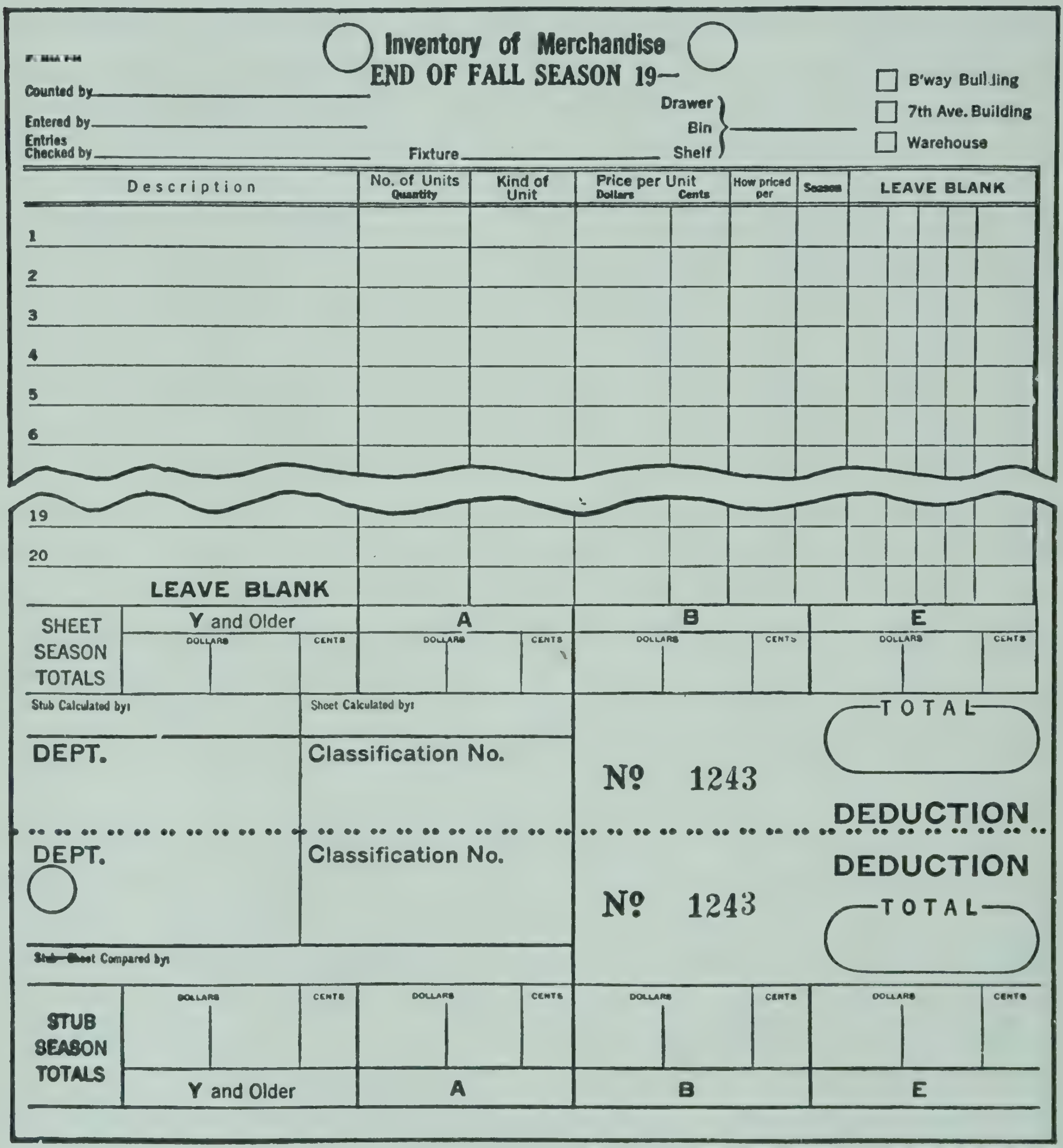
c. Invoices arriving shortly before inventory date or shortly afterwards should be labeled as *taken* or *not taken* (or *old stock* and *new stock*). If *taken,* the buyer must get these goods out of the receiving room and into stock by inventory date, and the office will charge the purchase to the department before closing its books. If *not taken,* the goods will be held in the receiving room and not counted in the inventory, nor will the corresponding bill be charged to the department until the beginning of the next control period. The buyer should be required to sign every invoice and mark it as indicated on the morning of the inventory day so that the office will have its records promptly. In some stores, in order to avoid last minute *not taken* merchandise, the receiving room is closed down for about one week before inventory so as to allow time to remove everything to forward stock and so as to get all corresponding bills passed through to the office before inventory date. In others, purchases arriving during a three-day interval before inventory are held in the receiving room and not distributed or included in the count. Carelessness in invoice *cutoff* (determining which invoices to include or not include in determining the book inventory) causes more errors than negligence in taking physical inventory.

d. Goods returned from customers are checked over to make sure that they are properly relabeled, and returned to stock. Goods out on memorandum or loan should be put through as sales, so as to be excluded from the inventory, or provision made to count the amounts outstanding in the inventory. Customers' own merchandise brought in for adjustment should be so labeled and carefully segregated from the inventory. Goods paid for but not delivered and special orders on hand should ordinarily be included in the inventory. For example, a customer may pay for goods that have to be initialed, and these goods may be on hand at inventory time. If the salescheck is not made out until delivery, the goods are clearly a part of the stock. If the check is made out when the order and money are taken, some stores hold the check in the floor superintendent's office so that it is not included in sales until delivery is effected.

e. All stock should be put in order and sorted by classification, price line, season letter, and style. If the season letter is missing on old merchandise, it should be classified in the oldest group set up. All empty containers should be removed except when needed in the course of regular work. Prices of goods in containers should be checked against prices on contents, and tests should be made to determine whether prices and season letters appearing on tickets agree with the invoices. Goods should be checked over for mismates and odd prices.

f. A final preparation for the inventory is for the buyer to check over the controller's records affecting his stock condition. This should include (1) inspection of entries in his departmental purchase record for the six-month period, to note any errors. If he notes vendors' names, unusually high and low markups, and all cases where an item has been charged to him at cost only and not at retail as well, he may apprehend errors. (2) The check should also cover the accounts payable record of "stock repairs," goods sent back to the vendor for repair but not charged to him.

Forms used for counting and listing. There are two types of forms that may be used for the listing of stock, the inventory sheet and the inventory tag. The inventory sheet (Figure 12a)



Inventory of Merchandise
END OF FALL SEASON 19—

Counted by____________
Entered by____________
Entries Checked by____________
Fixture____________
Drawer / Bin / Shelf ____________

☐ B'way Building
☐ 7th Ave. Building
☐ Warehouse

Description	No. of Units Quantity	Kind of Unit	Price per Unit Dollars	Cents	How priced per	Season	LEAVE BLANK
1							
2							
3							
4							
5							
6							
19							
20							
LEAVE BLANK							

SHEET SEASON TOTALS	Y and Older		A		B		E	
	DOLLARS	CENTS	DOLLARS	CENTS	DOLLARS	CENTS	DOLLARS	CENTS

Stub Calculated by:
Sheet Calculated by:

DEPT.
Classification No.
Nº 1243
TOTAL
DEDUCTION

DEPT.
Classification No.
Nº 1243
DEDUCTION
TOTAL

Stub—Sheet Compared by:

STUB SEASON TOTALS	DOLLARS	CENTS	DOLLARS	CENTS	DOLLARS	CENTS	DOLLARS	CENTS
	Y and Older		A		B		E	

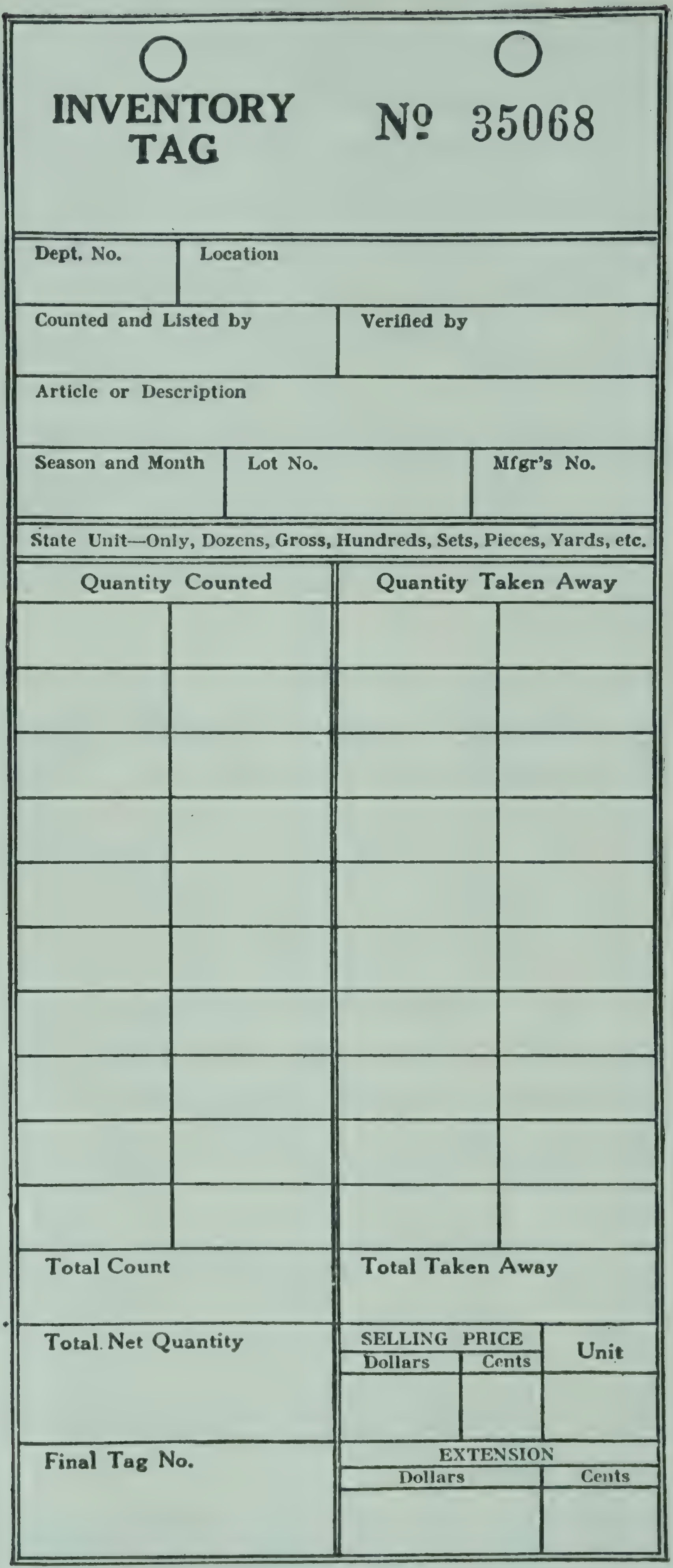
FIGURE 12a. Inventory Sheet.

allows the listing of a large number of items on one sheet. It carries spaces for the description of the merchandise, with the style or lot number, the season letter, the classification, the quantity, the unit of measurement (yards, pieces, dozens, gross), the retail price per unit, and the extensions. If the store uses the cost method of inventory, columns will be provided for the cost price and for the present value if lower. The second form is the inventory tag (Figure 12b). The information required is similar, but a separate tag is used for every different style or lot number and also for the same article if in different locations. These tags are filled out completely in advance of the date the inventory is to be completed, and any sales or other deductions made between the time the tag has been filled out and the inventory completed are recorded on the tag as such deductions are made. These tags are especially useful in connection with yard goods where it is convenient to measure goods in advance of the inventory date. Yardage sold after the count is entered at the time of each sale.

Where inventory sheets, rather than tags, are used, and sales occur within a section in which the count has already been made, a special deduction sheet is made out. The form is the same as the regular inventory sheet, but is clearly marked to differentiate it. Salespeople should be carefully instructed to make all such deductions as sales are made, else there is danger of error and failure for the inventory figures to agree with the office records obtained from the previous inventory, purchases, sales, and markdowns. If these records are to agree, the amount on the inventory sheets, as finally submitted, must indicate the goods on hand at the end of the inventory, that is, at the time that the book figure is computed.

Both inventory sheets and tags have their advocates, and it is difficult to choose between them. The chief advantages of the inventory sheet are as follows:

1. Fewer forms are necessary, since a large number of items can be listed on one sheet.
2. General information such as department number and classification does not have to be recorded for each different item, but once for each sheet only.
3. The sheet provides a convenient form for studying the in-



INVENTORY TAG № 35068

Dept. No.	Location	
Counted and Listed by	Verified by	
Article or Description		
Season and Month	Lot No.	Mfgr's No.
State Unit—Only, Dozens, Gross, Hundreds, Sets, Pieces, Yards, etc.		

Quantity Counted		Quantity Taken Away	

Total Count	Total Taken Away		
Total Net Quantity	SELLING PRICE		Unit
	Dollars	Cents	
Final Tag No.	EXTENSION		
	Dollars	Cents	

FIGURE 12b. Inventory Tag.

formation. It is cumbersome to have to thumb through a batch of tags.

On the other hand, the inventory tag has the following advantages:

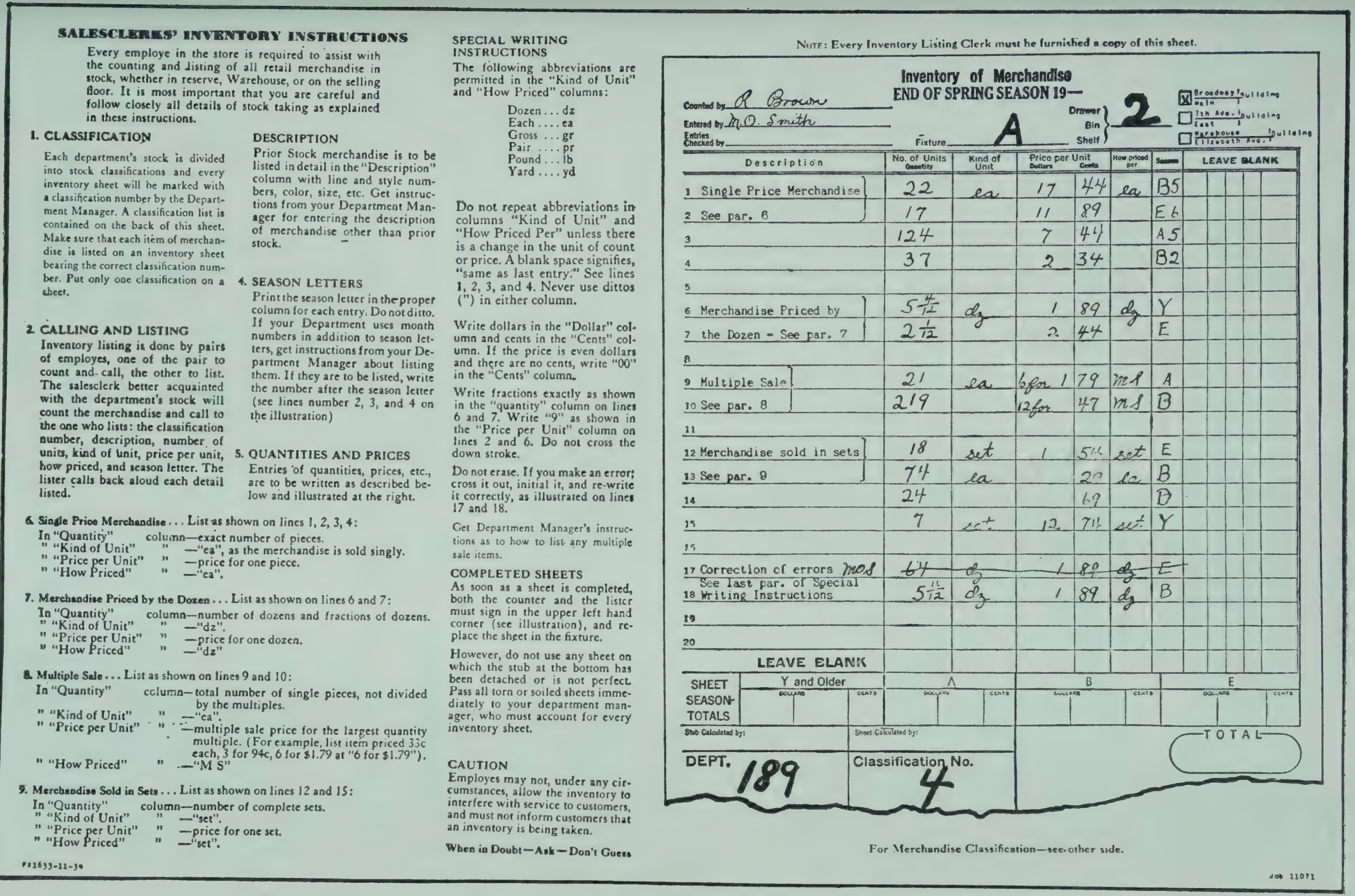
1. The counting and listing can more readily be done in advance of inventory date. The tag, when filled out, is left with the merchandise, and any sales or withdrawals occurring after the count may readily be noted on the form as they occur.
2. The tag makes it easier for the supervisor to determine that all items have been counted, since every different type of article must have a corresponding tag. When sheets are used, a quick visual inspection of the stock does not reveal the possible omission of some items.
3. Tags may be easily sorted after inventory by age, classification, and price lines. Such analysis is cumbersome when one sheet contains items in different age and classification groups.

Listing period. Some stores have succeeded in taking their complete forward stock, that is, the stock on the selling floor, in one evening, and thus there is no difficulty in handling sales during inventory. Such rapid listing of forward stock is highly desirable and is possible where a reserve is carried and only a small quantity in each style or kind is carried on the selling floor. The warehouse and reserve-stock inventories may be taken in advance of the forward stock, but careful records are kept of everything sent to the selling floor or received from any source. Addition and deduction sheets should be used for this purpose along with the regular listing sheets. Thus, when the recorded additions and subtractions are made to the original inventory sheets for warehouse and reserve, the quantities are those on hand at the time the forward-stock inventory is completed. If the selling department requisitions goods on inventory night, they should be held in reserve so as not to be included in the count and so that a deduction sheet will not have to be made for the reserve. Special groups of sheets may be allotted to reserve and warehouse.

Procedure. As has already been pointed out, inventory forms are distributed to each subfixture, and at the appointed time salespeople list the goods in forward stock, and stockmen the goods in the reserve. When the merchandise is in drawers or closed containers, it should all be removed just before or during counting, and replaced after listing. Two persons generally work together, a person experienced in the line counting the goods, and another person listing. In some stores all the goods are counted twice, the person who did the listing now doing the counting. Another plan is for one pair of persons to lift the goods out of containers when counting and for a second pair to count back, returning the goods to their places. To avoid the second pair assuming that the first were correct, the first count may be recorded at the extreme right of the sheet and folded under and sealed in such a manner that the second pair will be unable to see the quantities entered. The second pair counts independently but does not have to record the descriptions again, for they have already been entered.

Most stores find the double counting system too cumbersome. Instead only test checks are made here and there by a force from the controller's office. If no errors are found, the rest of the inventory is assumed to be correct, but if there are errors of consequence, a complete recheck of the department is demanded. It is important that those filling out the inventory forms follow uniform methods exactly; otherwise the office is likely to make errors in extending and totaling. The instructions for stocktaking in Figure 13 set up good standards of practice.

Counting goods outside department. Even after an effort has been made to return goods to the selling department in advance of inventory, there is likely to be merchandise outside the department charged to it. To make sure that all such merchandise outside is included, it has been found wise to set aside a number of sheets, one for the counting of each classification of



SALESCLERKS' INVENTORY INSTRUCTIONS

Every employe in the store is required to assist with the counting and listing of all retail merchandise in stock, whether in reserve, Warehouse, or on the selling floor. It is most important that you are careful and follow closely all details of stock taking as explained in these instructions.

1. CLASSIFICATION

Each department's stock is divided into stock classifications and every inventory sheet will be marked with a classification number by the Department Manager. A classification list is contained on the back of this sheet. Make sure that each item of merchandise is listed on an inventory sheet bearing the correct classification number. Put only one classification on a sheet.

2. CALLING AND LISTING

Inventory listing is done by pairs of employes, one of the pair to count and call, the other to list. The salesclerk better acquainted with the department's stock will count the merchandise and call to the one who lists: the classification number, description, number of units, kind of unit, price per unit, how priced, and season letter. The lister calls back aloud each detail listed.

DESCRIPTION

Prior Stock merchandise is to be listed in detail in the "Description" column with line and style numbers, color, size, etc. Get instructions from your Department Manager for entering the description of merchandise other than prior stock.

4. SEASON LETTERS

Print the season letter in the proper column for each entry. Do not ditto. If your Department uses month numbers in addition to season letters, get instructions from your Department Manager about listing them. If they are to be listed, write the number after the season letter (see lines number 2, 3, and 4 on the illustration)

5. QUANTITIES AND PRICES

Entries of quantities, prices, etc., are to be written as described below and illustrated at the right.

6. Single Price Merchandise . . . List as shown on lines 1, 2, 3, 4:

In "Quantity" column—exact number of pieces.
" "Kind of Unit" " —"ea", as the merchandise is sold singly.
" "Price per Unit" " —price for one piece.
" "How Priced" " —"ea".

7. Merchandise Priced by the Dozen . . . List as shown on lines 6 and 7:

In "Quantity" column—number of dozens and fractions of dozens.
" "Kind of Unit" " —"dz".
" "Price per Unit" " —price for one dozen.
" "How Priced" " —"dz"

8. Multiple Sale . . . List as shown on lines 9 and 10:

In "Quantity" column—total number of single pieces, not divided by the multiples.
" "Kind of Unit" " —"ea".
" "Price per Unit" " —multiple sale price for the largest quantity multiple. (For example, list item priced 33c each, 3 for 94c, 6 for $1.79 at "6 for $1.79").
" "How Priced" " —"M S"

9. Merchandise Sold in Sets . . . List as shown on lines 12 and 15:

In "Quantity" column—number of complete sets.
" "Kind of Unit" " —"set".
" "Price per Unit" " —price for one set.
" "How Priced" " —"set".

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SPECIAL WRITING INSTRUCTIONS

The following abbreviations are permitted in the "Kind of Unit" and "How Priced" columns:

Dozen . . . dz
Each . . . . ea
Gross . . . gr
Pair . . . . pr
Pound . . . lb
Yard . . . . yd

Do not repeat abbreviations in columns "Kind of Unit" and "How Priced Per" unless there is a change in the unit of count or price. A blank space signifies, "same as last entry." See lines 1, 2, 3, and 4. Never use dittos (") in either column.

Write dollars in the "Dollar" column and cents in the "Cents" column. If the price is even dollars and there are no cents, write "00" in the "Cents" column.

Write fractions exactly as shown in the "quantity" column on lines 6 and 7. Write "9" as shown in the "Price per Unit" column on lines 2 and 6. Do not cross the down stroke.

Do not erase. If you make an error; cross it out, initial it, and re-write it correctly, as illustrated on lines 17 and 18.

Get Department Manager's instructions as to how to list any multiple sale items.

COMPLETED SHEETS

As soon as a sheet is completed, both the counter and the lister must sign in the upper left hand corner (see illustration), and replace the sheet in the fixture.

However, do not use any sheet on which the stub at the bottom has been detached or is not perfect. Pass all torn or soiled sheets immediately to your department manager, who must account for every inventory sheet.

CAUTION

Employes may not, under any circumstances, allow the inventory to interfere with service to customers, and must not inform customers that an inventory is being taken.

When in Doubt—Ask—Don't Guess

NOTE: Every Inventory Listing Clerk must be furnished a copy of this sheet.

Inventory of Merchandise
END OF SPRING SEASON 19—

Counted by R Brown
Entered by M.O. Smith
Entries Checked by
Fixture A
Drawer / Bin / Shelf 2

☒ Broadway / Main Building
☐ 7th Ave. / East Building
☐ Warehouse / Elizabeth Ave. Building

Description	No. of Units Quantity	Kind of Unit	Price per Unit Dollars	Cents	How priced per	Season	LEAVE BLANK
1 Single Price Merchandise	22	ea	17	44	ea	B5	
2 See par. 6	17		11	89		E6	
3	124		7	44		A5	
4	37		2	34		B2	
5							
6 Merchandise Priced by	$5\frac{4}{12}$	dz	1	89	dz	Y	
7 the Dozen - See par. 7	$2\frac{1}{12}$		2	44		E	
8							
9 Multiple Sale	21	ea	6 for 1	79	ms	A	
10 See par. 8	219		12 for	47	ms	B	
11							
12 Merchandise sold in sets	18	set	1	54	set	E	
13 See par. 9	74	ea		20	ea	B	
14	24			69		D	
15	7	set	12	74	set	Y	
15							
17 Correction of errors mos	~~64~~	~~dz~~	~~1~~	~~89~~	~~dz~~	~~E~~	
See last par. of Special 18 Writing Instructions	$5\frac{11}{12}$	dz	1	89	dz	B	
19							
20							
LEAVE BLANK							

SHEET SEASON-TOTALS	Y and Older		A		B		E	
	DOLLARS	CENTS	DOLLARS	CENTS	DOLLARS	CENTS	DOLLARS	CENTS

Stub Calculated by:
Sheet Calculated by:
DEPT. 189
Classification No. 4
TOTAL

For Merchandise Classification—see other side.

Job 11071

FIGURE 13. Salesclerks' Inventory Instructions.

goods in each place outside the department in which its stock might be found. For example, the first inventory sheets may be marked and issued for the count of goods in the following places:

1. Repairs (not charged back to the vendor).
2. Display windows—for goods in the display windows.
3. Display in other departments.
4. Foreign office (samples).
5. Advertising office.
6. Buyer's and merchandise manager's offices.
7. Comparison bureau.
8. Testing laboratory.
9. Telephone order bureau.
10. Receiving room (if bills have been passed and goods not sent to department).
11. Merchandise on approval (if not charged to customers).

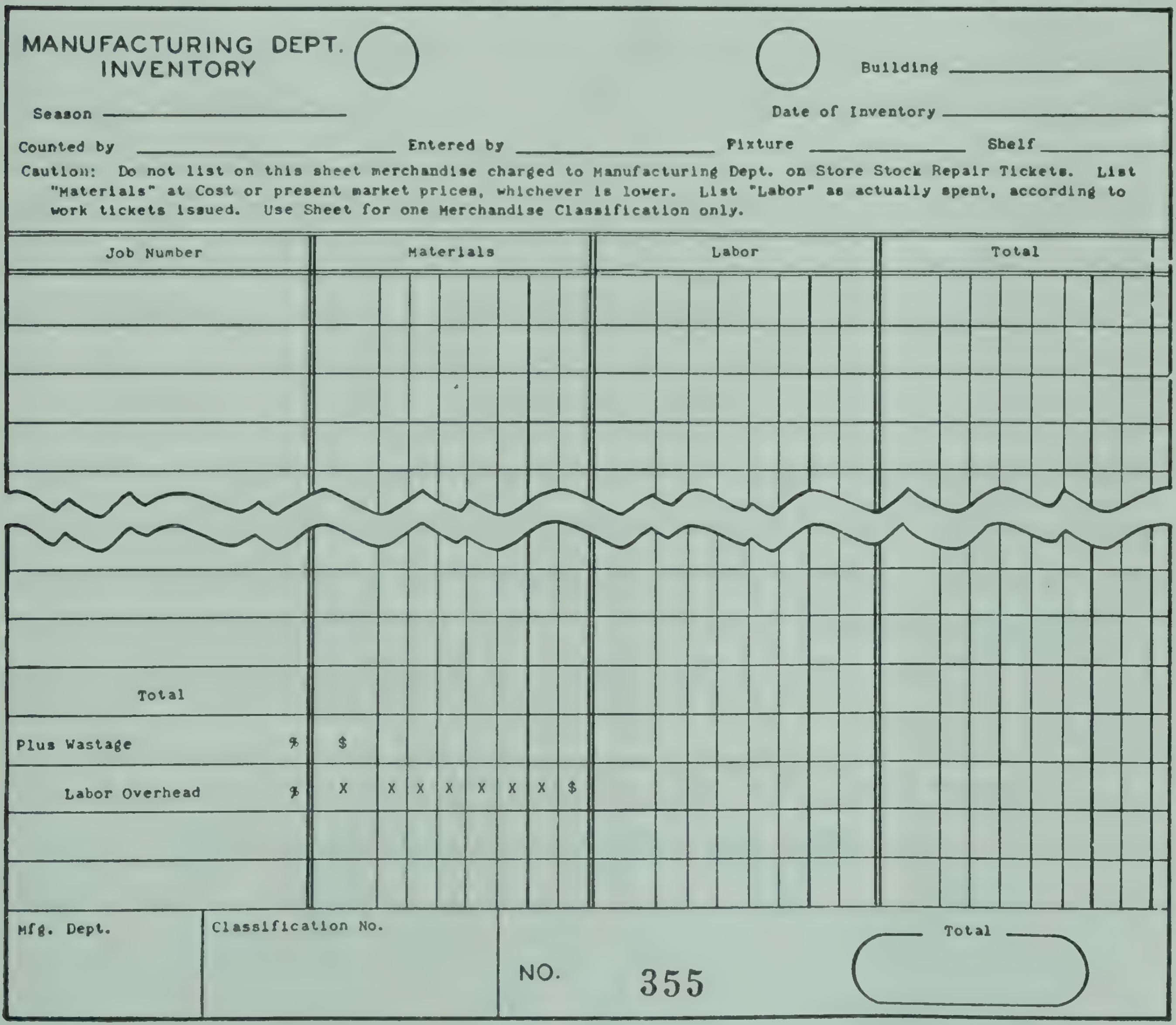
The only merchandise that should not be included in the inventory is customers' own merchandise and goods sold but in the alteration or workroom departments. Merchandise out for an exhibition or a fashion show may also be excluded if the store treats it as "sold" or a C.O.D. If on memorandum, it must be included.

Since errors in handling repairs are common, one store has the following regulations:

> The merchandise department will list as "Stock Repairs" under proper classification numbers all open items sent out on "Return to Vendor for Repair" form, and still outstanding in vendor's hands for repair, monogram work, and so forth. In order to facilitate this listing, the Accounts Payable Division of the Controller's Office will have a list of open stock repairs available for the Department Manager at 4 P.M. on inventory day. The Department Executive will check this list against the department's own stock repair records, crossing off all items returned to the department and inventoried, and adding any items not included by Accounts Payable. Enter all repairs then outstanding on inventory sheets headed "Stock Repairs," in the "Merchandise Out of Department" pad.

List by classification and season letters. On inventory night turn in the Accounts Payable Division's open stock repair list attached to the "Merchandise Out of Department" pad. List only retail amounts at which merchandise was charged, even if sent out on repair at lower or "No Retail" or "Retail Same as Cost."

Manufacturing departments. Materials and unfinished goods in manufacturing departments and cost departments must be included in the store inventory. It is necessary to count materials at cost or market whichever is lower, and in the case of work-in-process to record the value of direct labor consumed on each job to date. The office must also charge overhead to work-in-process inventory; this is generally set as a percentage of direct labor. Figure 14 is used in one store for the inventory of such manufacturing departments.



MANUFACTURING DEPT.
INVENTORY

Building ____________

Season ____________

Date of Inventory ____________

Counted by ____________ Entered by ____________ Fixture ____________ Shelf ____________

Caution: Do not list on this sheet merchandise charged to Manufacturing Dept. on Store Stock Repair Tickets. List "Materials" at Cost or present market prices, whichever is lower. List "Labor" as actually spent, according to work tickets issued. Use Sheet for one Merchandise Classification only.

Job Number	Materials	Labor	Total
Total			
Plus Wastage %	$		
Labor Overhead %	X X X X X X X $		

Mfg. Dept.	Classification No.	NO. 355	Total

FIGURE 14. Manufacturing Department Inventory Sheet.

Procedure when count is completed. As the counts are made, sheets are usually left in bins, drawers, and shelves with the merchandise until the counting is finished. The sheets are then collected and returned to the department manager, who checks off each one against his tally card. Damaged sheets are returned, marked void. A missing sheet is easily located because the tally indicates the fixture and bin or shelf number on which it was placed. The sheets are arranged by serial number and each series bound in a cover or clipped together and turned over to the inventory division of controller's office, where these numbers are rechecked to make sure that all batches of forms passed out are returned. The sheets are then extended, that is, the quantity of each item is multiplied by the unit retail price, and the quantity purchased in each season is determined. It is customary to make two extensions. The first is made on perforated stub (see Figure 12a), which is then removed. A second operation repeats the calculations on the body of the form, and the two groups of totals are compared.

Reports are then drawn up analyzing the inventory of each department by classification and season letter. The classification subtotals are easily obtained if separate sheets are used for merchandise in each classification. In some instances, the inventory is analyzed by price line within each classification. Such a detailed breakdown of the figures is facilitated by using tabulating machinery. A card is punched for every item appearing on a line of the inventory sheet or for every inventory tag. These cards are then put through a sorting machine that sorts them by classification, price line, and season letter. They are next put through a tabulating machine that issues a typed classified report.

The buyer has a few responsibilities in connection with the inventory even after the actual count is completed and the forms turned in. He should submit a record of any price changes that had to be made just before inventory, and he should go over inventory sheets after the office has extended them to check errors.

The physical inventory figure is compared with the "book" figure to determine the stock shortages, as explained in the next chapter.

Mechanical Aids to Physical Inventory

To simplify either the process of counting or that of analysis, various devices may be used. A fixture may be devised to hold a predetermined quantity of a certain article or container. If a fixture is full, counting is unnecessary; if there is space in the fixture for a readily determinable number, this number may be subtracted from the number the fixture holds when full.

In some instances, it is quicker to weigh a quantity of small identical goods than to count them. For example, even though lemons may cost 3 cents each, it may be easier to weigh all the lemons in stock and divide by the average number of lemons to the pound, as determined from a sample. Measuring machines are helpful for yard goods and there is a calibrating device whereby the width of a bolt is measured and the number of folds counted to give the yardage.

In connection with analyzing an inventory by such factors as classification, season letter, or price line, some stores prepare a punch card for every different kind of item in the inventory and these are sorted and tabulated mechanically. In one stock room operation, a punching machine on wheels provides the original inventory record, eliminating the use of either the inventory sheet or the manual inventory slip. Two people work as a team: one calls off the description and quality of each item in stock and the other operates the machine, punching a tabulating card for every different item called off.[2]

REVIEW QUESTIONS

1. What are the four functions of a physical inventory?
2. Explain how inventories may be used to provide sales information.
3. What are the three units of measure for computing inventories?

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[2] See Chapter 22 for a further discussion of mechanical and electrical tabulating equipment in connection with unit control.

4. What are the sources of cost information that may be used in taking inventory at cost?
5. Explain three types of cost codes.
6. If goods are bought by the gross and sold by the piece, should cost codes be made out in the gross price or the unit price? Why?
7. Explain the plan of placing a serial number on each price ticket rather than a cost code. Does it have any advantages?
8. What is the FIFO method of inventory? Give an example.
9. What is the advantage of taking inventory at retail prices instead of cost prices?
10. What is the usual frequency of inventories? When is greater frequency desirable?
11. What are the two major requirements in taking physical inventory?
12. What advance preparation is necessary in a large store? Explain each of the five activities involved.
13. Differentiate between the inventory sheet and the inventory tag. What are the chief advantages of each?
14. Is it possible to take inventory in one evening? If so, how?
15. Explain the procedure in counting the inventory. Is a double check necessary?
16. In what places outside of regular stock may inventory be found? What device assures that none of this stock is neglected?
17. How does the manufacturing department inventory differ from the merchandise inventory?
18. What are the steps in completing the inventory after the counting and recording has been done?
19. What are some mechanical aids to simplify the taking of inventory?

12

How to Determine and Control Stock Shortages

Whether a store takes its physical inventories at cost or retail prices, it is feasible to calculate book inventories at more frequent intervals than the physical counts. The book inventory is a record of what ought to be on hand in view of what has been received and what has been sold. If a book inventory is calculated at regular intervals, such as every day, week or month, it is called a perpetual inventory. Book inventories may be kept either in terms of dollar value or in terms of units of merchandise. In this chapter, attention will be centered upon perpetual dollar inventories.

Advantages of Book Inventory

1. Makes possible the determination and control of stock shortages.
2. Aids in the control of purchases.
3. Allows the frequent calculation of profits.
4. Results in larger recovery on insurance in case stock is destroyed.

Advantages of Obtaining Book Inventories

There are four main reasons for calculating book inventories:

Stock shortage control. First, it makes possible the determination of merchandise shortage, that is the excess of the book inventory over the physical inventory as of the same date. For example, if the book inventory is $10,000 and the physical inventory is $9,600, the stock shortage is $400.

A knowledge of the fact of loss by shortage is essential if steps to avoid the loss are to be taken. Those stores that fail to obtain a book inventory may continue for many years with no knowledge of the fact that large quantities of merchandise are being lost or stolen. Even when the loss is suspected, there is no way of allocating it to specific departments. Maintenance of a book inventory makes it possible to determine the shortage every time a physical inventory is taken. In those departments in which shortages are relatively large or in which they show a tendency to rise, prompt steps may be taken to trace the source of loss and plug it.

Purchase control. Second, a book inventory, if calculated "perpetually," aids in the control of purchases. An accurate record of stock on hand every week or month in every department is one of the most important guides to successful merchandising. Merchants attempt to maintain predetermined relationships between sales and stocks, to have ample stock to meet customer demand and at the same time to keep the investment as low as possible. A frequent determination of the stock on hand is essential.

Profit control. Third, book inventories make it possible to calculate profits at any time, at least once a month. This is done by substituting the book figure for the physical inventory figure ordinarily used. Errors will be limited to stock shortages that will ordinarily be very small. Before the use of perpetual inventories became common, merchants used to take their annual or semiannual inventories in fear and trembling, not knowing whether they would show a profit or a loss. Today, the profits are known "perpetually" and there is time to change methods and even policies if an interim report reveals an unsatisfactory condition.

Insurance losses. Fourth, book inventories maximize collections from insurance companies in the case of fire loss. Without such a system, the store has no way of telling how much goods were destroyed in a fire except in rare instances where the fire occurs immediately after a physical inventory has been taken. The figure is a guess, and the insurance companies naturally accept the lowest guess. When there is a perpetual inventory, the chief thing to save from the fire is the stock ledger and sales records, for the inventories they present as of the day of the fire are generally accepted by the insurance companies as accurate.

Calculating Book Inventories

Book inventories at cost. Dollar book inventories, if maintained at cost, require that the cost of goods sold be subtracted from the sum of the opening inventory and purchases at cost. Since sales records are ordinarily kept only at retail, it becomes necessary to "cost" the sales, that is, to put the cost of each item on each salescheck in code.

The billed costs of all the items sold as they appear on saleschecks in code are added up and substracted from total merchandise handled as follows:

	Cost
Opening inventory	$ 5,000
Purchases	10,000
Total merchandise handled	15,000
Billed cost of goods sold	9,000
Closing book inventory at billed cost	$ 6,000

If an actual physical inventory taken at billed costs shows $5,800 worth of stock on hand, the difference of $200 is the shortage at cost. This shortage of $200 may be expressed as a percentage of cost of goods sold: $200 ÷ $9,000 equals 2.2 per cent. In view of what was sold, $6,000 worth should be left, but only $5,800 worth is found to be actually on hand.

Such costing of sales to find a book inventory figure is not generally to be recommended because of the amount of detail it involves and the danger of error in coding and decoding.

Some stores attempt to simplify the costing operation by keeping sales records only at retail and then reducing sales to an estimated cost by using the estimate maintained markup. Thus if sales are $12,000 and last year's maintained markup was 25 per cent the cost of goods sold would be estimated at $9,000 and this figure subtracted from the total merchandise handled. While this short-cut method gives a rough approximation of what is on hand, it is unreliable because the maintained markup figure used is a guess based upon past experience. The actual maintained markup cannot be determined until either the closing inventory figure is known or the retail method of inventory applied, as explained below.

Calculating Loss Due to Fire

A merchant who kept no formal perpetual inventory system suffered total loss of inventory by fire on March 10. His physical inventory at cost on February 1 was $20,000 and his invoices showed that $25,000 worth had been received subsequently. His sales had been $40,000 since February 1. Last year his maintained markup on sales was 30 per cent. He figured his inventory at the time of the fire, as basis for a claim, as follows:

Opening inventory		$20,000
Purchases		25,000
Total merchandise handled		$45,000
Sales	$40,000	
Markup	30 per cent	
Cost of sales (70 per cent of $40,000)		28,000
Book inventory, March 1		$17,000

Book inventories at retail. The retail method of calculating book inventories is much simpler than "costing" sales and far more accurate than estimating the maintained markup. It requires that the retail prices of all purchases be recorded and all price changes too, but this is much less work than assembling and calculating the cost price of all articles sold. The following example illustrates how the retailing of purchases allows determination of book inventory to check against the actual physical inventory. The difference represents shortage.

	Cost	*Retail*	
Inventory at beginning	$20,000	$ 35,000	
Purchases (including additions)	70,000	110,000	
Total merchandise handled	90,000	145,000	
Net sales			$100,000
Net markdowns and discounts to customers and employees			4,000
Retail deductions (not including shortage)		104,000	
Book inventory at end		41,000	
Physical inventory at end		40,250	
Shortage at retail		$ 750	

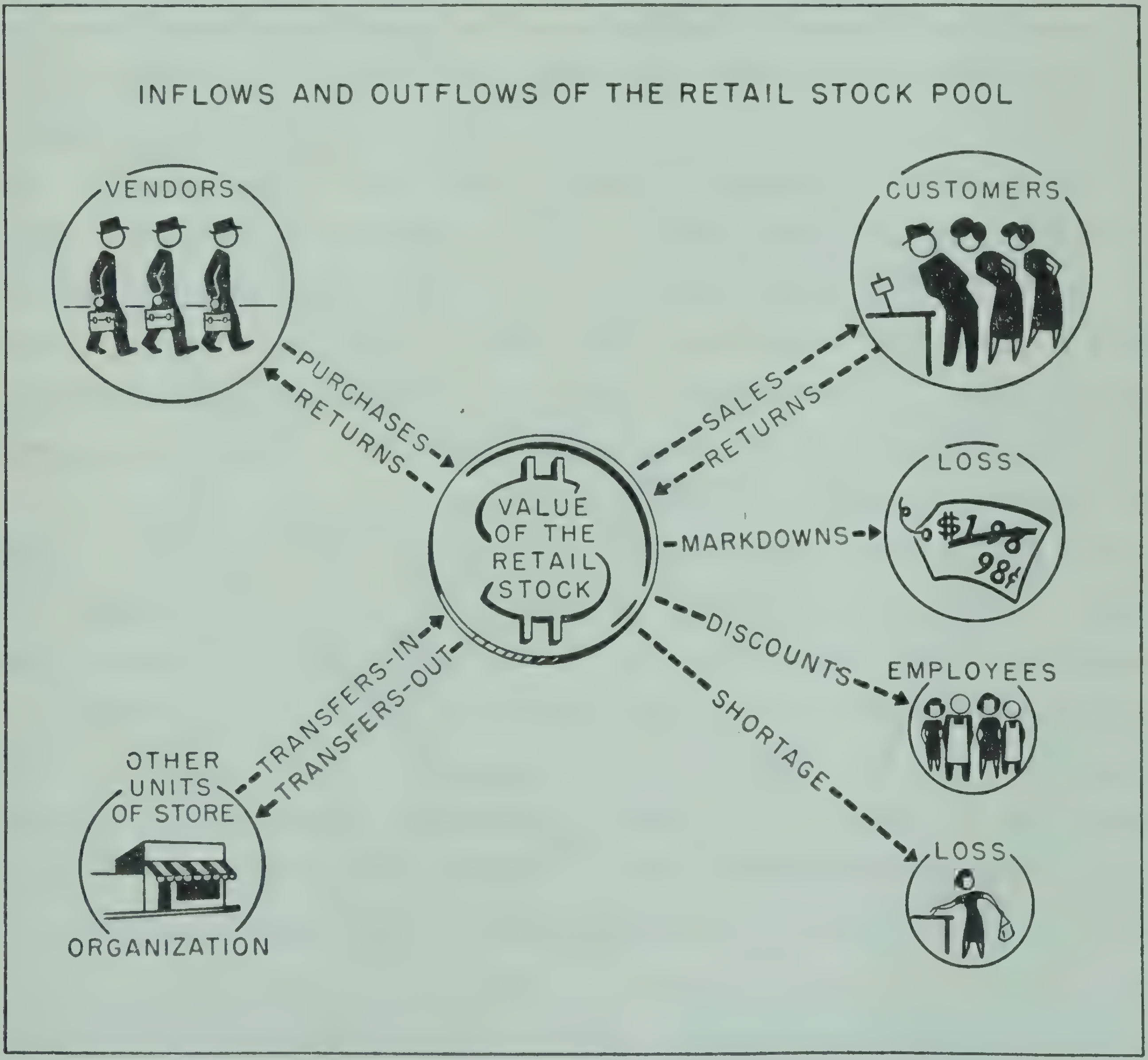

FIGURE 15. Inflows and Outflows of Retail Stock Pool.

The corresponding retail values for inventory and purchase figures are easily obtained by marking on each invoice the retail price of each item. This allows the bookkeeper to determine the total retail as well as the total cost of each purchase. These two values are accumulated for the whole period for which profits are to be computed. Certain adjustments, to be explained in Chapter 14, may be necessary in the cost and retail purchase figures for such items as transfers, transportation charges, and price changes.

From the retail value ($145,000 in the illustration), deductions are continually being made. It is evident that *net sales* [1] are not the only element of value reducing the total merchandise handled. Markdowns (due to reduction of the retail value of stock on hand) have exactly the same effect on total merchandise handled at retail as do sales. Since all figures are expressed in terms of value rather than of physical merchandise, it is evident that markdowns reduce the total value of stock as truly as do the sales. The same is true of discounts given to customers and employees—they reduce the retail stock. The amount of these discounts may be obtained from saleschecks. The amount of markdowns can readily be determined by filling out a form every time merchandise is reduced in price, giving the old price, the new price, and the number of items reduced. The difference in price, multiplied by the quantity, gives the total amount of markdown in each case.

The markdown figure used in the calculation is *net markdown.* When a reduction in price is originally made, it is known as a *gross markdown.* Any restoration of a markdown price to or toward the original retail is known as a *markdown cancellation.* The difference between the two is the *net markdown* figure, the amount of permanent markdown. For example, in preparation for a sale a buyer may reduce 1,000 items retailing at $2.00 each to $1.50 each. The gross markdown is

---

[1] The *net sales* figure rather than the *gross sales* is used because returns from customers come back into stock.

$500. At the end of the sale, 200 of these items may remain unsold and be marked back to $2.00 each. The markdown cancellation is $100, and the net markdown $400.

In the example on page 223, $100,000 of value is taken away from total retail merchandise handled in the form of sales, and $4,000 of value is taken away in the form of markdowns and discounts. If there were no shortage, the stock left on hand would be priced at $41,000 retail. This difference between total merchandise handled and the sum of sales and known reductions is called the retail book inventory. It represents the amount that should be on hand if there have been no stock shortage.

Finding Stock Shortage at Retail

A men's clothing merchant had a retail inventory on August 1 of $40,000; he purchased, net at retail $70,000 worth of goods during the fall and winter season; and during the same period he sold $60,000 net, he marked down $15,000 worth of goods to $10,000, and gave discounts to employees of $500. At the end of the period he had $43,500 stock on hand by physical count. He figured his shortages as follows:

Opening inventory		$40,000
Purchases		70,000
		$110,000
Net sales	$60,000	
Net markdowns	5,000	
Discounts to employees	500	
Total deductions		65,500
Closing book inventory		44,500
Physical inventory		43,500
Stock shortage, at retail		$ 1,000
Stock shortage, per cent of sales $\left(\frac{\$1.000}{\$60,000}\right)$		1.7%.

The actual count of stock on hand at retail prices may indicate the value as only $40,250, which is $750 less than the book inventory. This difference is the amount of retail shortage.

Stock Shortages and Overages

Shortage, we have found, is the excess of the book over physical inventory. The reasons for shortages are of two major types: (1) physical loss of goods and (2) clerical errors in the calculation of the book inventory or in the count of the physical inventory.

Reasons for physical shortage. Shortage may be caused by theft, by breakage, by loss, by physical shrinkage, by mismeasuring and by overselling. There is no way to tell how much of the physical loss to attribute to each of these factors, but it would be erroneous to assume that theft either by outsiders or by employees accounts for all shortages. An occasional large shortage, however, will point to a plot in which a number are engaged to steal merchandise. One controller estimates that theft accounts for 40 per cent of the shortage in his large department store.

Physical shrinkage occurs in foods sold by weight that lose water content while in stock or in foods that are subject to spoilage. Overselling means selling goods at a lower price than that at which they are carried in stock. For example, because of improper marking a $100 brooch may be sold for $10; thus, there is a shortage of $90. Such overselling is particularly common where measuring has to be done. For example, a customer may order 3 yards of woolen dress goods, but the clerk may cut off an extra half inch. Such errors are more often in the customer's favor than the store's favor because the salesperson knows that the customer is more likely to catch and report an undermeasurement than the store management is to catch an overmeasurement. Sometimes, of course, salespeople deliberately "sell" goods at fictitiously low prices to accomplices. This is a form of theft.

The flow of merchandise through a store may be likened to a pipe line with joints at which leakage develops. The points at which goods are transferred from one individual to another are the "joints" where shortages are most likely to occur.

Thus, the first danger point is when the common carrier turns goods over to the store's receiving clerk. In one store, after a certain expressman had obtained a receipt from the receiving clerk for numerous cartons delivered in a shipment, he would put a few back on his truck while the receiving clerk's back was turned.

The second danger point is where goods are turned over to merchandise checkers and the third when they are turned over to markers. In one store, a porter removed a dress every evening after it had been checked against the invoice but before it had been marked. The fourth transfer point is when goods are turned over to reserve or forward stock from the marking section and the fifth at the time of inspection by and sale to customers. Wrong price ticketing is a common cause of trouble at this point and pocketing of cash without recording cash sales is another. Transfer to wrapping and packing desk, to delivery room, to the deliveryman, and to the customer's home provide additional "joints" where goods may become "short." The return of merchandise to the store provides still other danger points.

Control of physical shortage. Stores attempt to reduce physical shortage in a variety of ways, which may be classified as (1) physical safeguards, (2) detection, (3) a check at each transfer point, and (4) supervision.

(1) Physical safeguards include ingress and egress control of receiving, marking, stock rooms and fitting rooms, locks on merchandise trucks, and layouts of fixtures on the sales floor that do not obstruct vision. Glass front and top display cases, in variety stores especially, prevent customers from having direct access to goods. Placement of cash registers where they can be readily seen makes it extra difficult for a clerk to ring up the wrong amount without detection. Some stores have a checker at the entrance to the fitting room section and all garments taken to the fitting rooms are checked off when returned. One store found that when it substituted curtains for doors on fitting rooms shortages declined sharply—shoplifters were de-

terred from concealing clothes on their persons when only a curtain rather than a door separated them from watchful eyes of clerks. Another found that the closing of a back exit from their men's department greatly reduced shortages.

(2) Detection includes both the watchfulness of employees and of professional detectives. Stores try to provide adequate personnel to "cover the floor" so as both to discourage and apprehend shop lifting. In large stores, they also hire detectives to watch suspicious customers and employees. Organizations such as the Willmark Service shop employees to make sure that they are following the store's system regulations exactly. If a clerk fails to record a sale promptly or records it at less than the marked price, he becomes subject to suspicion.

(3) Careful check at all merchandise transfer points is a successful device to reduce shortage but may cost too much. In some stores, merchandise checkers have been required to count and sign receipts for all packages received from the receiving clerk; markers for every article received from checkers; stockmen for every article received from the marking room; the head of stock for every article received from the stock room; and delivery clerk for every package received from the selling floor. Thus, in the case of shortages, accountability can be determined—the sum of the merchandise one temporary custodian has on hand and has delivered to the next custodian should equal the amount that has been delivered to him.

A complete control of this kind is deemed too costly in most stores for the general run of goods but may be applied to expensive merchandise, such as real jewelry. One excellent device that provides a check at minimum cost is for markers to prepare the exact number of price tickets required according to the quantity information on the invoice. When the tickets are attached, if any are left over, it is clear that there has been a shortage between the time the goods were checked and the time they were marked. It is a frequently practicable plan, too, to make out written requisitions for all goods transferred from warehouse or reserve to forward stock and to check these requisitions against the quantity actually received.

(4) Through group and individual supervision, salespeople and stockmen are continually warned to handle goods carefully so as to avoid breakage and damage. Great care is taken to keep all merchandise properly ticketed with the correct price so that there will be no excuse for selling goods at a lower guessed price. To avoid overmeasurements, scales and other devices are used that are very accurate and yet easy to use. Many of them reveal the weight and measure just as readily to the customer and supervisor who may be near the salesperson making the sale.

Probably much physical shortage is due to carelessness, to a lack of responsibility, and to a belief that pilferage is to be condoned. Some employees take the attitude that they have a right to supplement meager wages by helping themselves—this is particularly true of food handlers. Even more important than detectives and physical controls, then, is a plan for morale building that will make people interested in safeguarding the merchandise they handle. They must feel that their personal destiny is tied up with the interests of the store.

Reasons for clerical shortages. There may be a discrepancy between book and physical inventories even though no physical shortage has occurred. There may have been an error in calculating the book inventory figure or in counting the physical inventory. The most common errors in deriving the book inventory are the failure to report all markdowns, marking goods at a lower price than that appearing on invoices, and charging a purchase to the wrong department. A department that is charged for merchandise that it did not receive shows too large a book inventory and a shortage, whereas the department that received the goods but was not charged for them shows too small a book inventory and an overage. In connection with markdowns, it should be noted that any price reduction that is not reported to the office will overstate the book inventory cal-

17 Rules for Effective Pilferage Control

Pilferage of merchandise is reported to be steadily increasing. Here's a list of DO*'s and* DON'T*'s which will help you control your pilferage problem.*

DO

1. Remember that the best safeguard against pilferage is alertness on the part of all employees.
2. Reduce temptation to the minimum. Make shoplifting difficult, and losses will drop.
3. Arrange displays and placement of employees so that all parts of the store are under supervision.
4. Have all parts of your store well-lighted.
5. Keep small, expensive items where they will have constant supervision.
6. Post signs in prominent spots to say in effect—"We reserve the right to inspect all packages."
7. Be most watchful for shoplifting during rush periods.
8. Watch suspected shoplifters on their return trips to the store.
9. Watch people who wear loose, baggy clothing.
10. Watch people who keep returning to a certain spot, or who linger without reason.
11. If shoplifter will sign a confession, with a witness present, it will lessen the danger of lawsuits.

DON'T

12. Don't make displays higher than eye level, if possible.
13. Don't accuse anyone of stealing unless you are certain of the fact.
14. Don't confront shoplifters inside the store. Allow person to leave store, then follow. Request them politely, but firmly, to re-enter.
15. Don't use force or threats.
16. Don't let anyone but the store manager or supervisor handle suspected cases of theft.
17. Don't prevent anyone from leaving store. Barring the way may be considered the same as arrest, and can lead to a damage suit.

Courtesy, Lever Brothers

FIGURE 16.

culated at retail and show up as a shortage. The controller referred to above estimates that unrecorded markdowns account for about 25 per cent of the shortage figures.

Control of clerical shortage. To eliminate clerical reasons for shortages, stores have introduced systems that make it very difficult for a buyer to price goods differently from invoices or to change any price, up or down, without reporting the change to the office. Similarly, they have systematic methods of taking physical inventory to eliminate errors in counting. These were described in the last chapter. Also great care is exercised in the office to make sure that figures upon which the book inventory is based are correctly compiled. A particularly difficult problem is that of timing, to be sure that every last minute change in the physical inventory is reflected in the records, particularly that every invoice representing goods that have been moved into stock are included in the calculation and that invoices representing goods not yet in stock are excluded.

Excessive shortage. Established stores, on a basis of past experience, set up a measure of tolerance for shortages. For example, a shortage not exceeding 1 per cent of sales of a particular line of merchandise may be deemed reasonable and the physical inventory accepted as sufficiently accurate for the calculation of profit and loss. On the other hand, if the shortage exceeds the limit set, an attempt will be made to reconcile more nearly the book and the physical inventories. The calculation of the book inventory will be rechecked. If a large discrepancy still exists, a recount of the physical stock will be ordered. There have been instances where a stock has been recounted three times because the management feared that errors had been made. If after considerable rechecking, a large shortage still exists, it has to be accepted as a physical one and profits calculated on a basis of the physical inventory.

Calculating Estimated Physical Inventory

Shortage allowance. In merchandise lines in which shortages are important, it is desirable, in computing the inventory for internal control purposes, to allow for estimated shortages based on past experience, as follows:

Total merchandise handled at retail		$145,000
Net sales	$100,000	
Markdowns and discounts to customers and employees	4,000	
Estimated shortage (2 per cent of sales)	2,000	
Total retail deductions		106,000
Estimated physical inventory		$39,000

Were a count of stock to be made at this time, the actual would differ from this estimated figure only by the amount of error in estimating shortages. If the store has past records of shortages as a guide, such errors should be very small.

Some stores always include an estimate of shortages in deriving inventories, no matter how small they may be. It should be recognized, however, that at the end of the fiscal year, the inventory valuation is based on an actual physical inventory and not on the estimated figure.

A careful distinction should be made between the three terms: *book inventory, physical inventory,* and *estimated physical inventory.* In the above illustration, the book inventory is $41,000 and the estimated physical inventory, $39,000. The physical inventory is not stated and would require an actual count to determine.

Staggering the physical inventory. While inventory is commonly taken at the end of January and July, under the retail method of inventory it is not necessary to wait until the last day of the fiscal year to take a physical inventory. The count may be made at any convenient date within a month or two of the end of the period, and the stock at the end of the year derived by means of a perpetual inventory. No allowance for estimated shortages during this interval is recognized by tax officials. For example, with the fiscal year ending January 31, a department may take physical inventory on December 31, previous, with the following results:

	Cost	*Retail*
Book inventory Dec. 31, 19—		$10,000
Physical inventory Dec. 31, 19—		9,000
Shortage		1,000
Accumulated inventory plus purchases Aug. 1, 19— to Dec. 31, 19—	$30,000	50,000

The closing inventory as of January 31, next, should be derived as follows:

	Cost	*Retail*	*Markup Per Cent*
Accumulated inventory plus purchases (Dec. 31, 19—	$30,000	$50,000	
Purchases Jan. 31, 19—	1,950	3,000	
Total merchandise handled	$31,950	$53,000	39.72
Sales, markdowns, and discounts (not including shortages) Aug. 1–Jan. 31		44,000	
Book inventory Jan. 31, 19—		9,000	
Shortage Dec. 31, 19—		1,000	
Recognized physical inventory		8,000	39.72

The actual inventory on February 1 is less than the recognized figure by the amount of shortages that have occurred in January, but there is no way to determine this amount without another count, and estimates are not acceptable. The error is very small, however, and would be nonrecurring if inventory is always taken at the same time. After the first period, the shortage determined on December 31 each year would represent a full year's shortage. Since both opening and closing inventories would be overstated by one month's shortage, the two errors would compensate for one another. Many controllers object to the "stagger" method on the grounds that it is exceedingly difficult to make sure for each department separately that all goods charged to a department are included in the count and all goods not yet charged excluded from the count. This is more easily done at one time for the store as a whole.

Overages

While shortages are logical, it is not logical to have on hand in the physical inventory more than the book figure indicates. Goods are stolen, but they are not donated to a store. Overages are therefore due largely to errors in record keeping. The most common ones causing overage are as follows:

1. Charging purchase invoices to the wrong department.
2. Improper charging to selling departments of goods manufactured in the store.
3. Crediting sales to the wrong department.

4. Taking markdowns on the records without actually reducing prices on price tickets.
5. Overstating the physical inventory.

The usual practice is to accept the actual retail physical inventory as correct, even though it is larger than the book figure. The overage, then, is treated as the opposite to a shortage, and the total retail deductions (net sales, net markdowns, discounts to customers and employees) are reduced by its amount. The overage increases the profits of the period somewhat as shortages decrease them, but the recognition of the overage is really a recognition of an error that tended to understate profits.

It sometimes happens that an overage in one period is offset by a shortage in the next. This may be caused by an overstatement in the physical inventory at the end of the first period. Some stores, when they question the accuracy of an overage, charge the cost of merchandise sold and credit a merchandise reserve account for the cost amount of the overage. If the overage appears to be constant over several seasons, it may revert to profit. If a shortage develops the next period, the cost of merchandise sold may be credited for the amount of the reserve.

"Perpetual" Sales Data from Physical Inventories

Where a perpetual inventory system is in operation, sales figures are continually available from daily records and are used to derive the amount of stock on hand. It is frequently more feasible to keep sales records than to take daily and weekly inventories. But for items and groupings of items where sales are many and inventories relatively small, it may be simpler to take inventories frequently and to derive the sales, by applying the formula:

Opening inventory + Purchases − Closing inventory = Sales

This method is seldom if ever used to determine the sales for a store as a whole or for a department, but it is commonly used to determine the sales for merchandise classifications and units, where a daily segregation and analysis of the sales would be too costly.

Deriving dollar sales. When sales are derived in terms of value rather than in units, it must be observed that the difference between the total merchandise handled and the closing inventory is more than the sales; it is the total retail reductions, which include sales, markdowns, discounts to customers and employees and shortages. Thus, referring to the table on page 223, the total merchandise handled was $145,000 and the closing physical inventory $40,250. The difference between these two figures of $104,750 includes not only the sales of $100,000 but also markdowns and discounts of $4,000 and shortages of $750.

If dollar sales for any grouping of merchandise, then, are to be derived from inventory data, it is necessary to have kept a record of the markdowns and discounts to customers and employees and if shortages are large, they should be approximated on a basis of past experience.

For example, an analysis of the semiannual inventory of the men's furnishings department may show a stock at retail of $3,500 in the men's underwear classification. Six months ago, the inventory was $3,000. An analysis of the purchases may reveal that $5,000 worth at retail was received into stock during the six months; and an analysis of markdown and discount records may show that the reductions taken on underwear were $400. The sales, including shortages, may be found as follows:

Opening inventory	$3,000
Purchases	5,000
Total merchandise handled	$8,000
Closing inventory	3.500
Total deductions	$4,500
Known reductions	400
Sales and shortages	$4,100

If shortages are normally small in this classification, the $4,100 may be regarded as the sales. Since the sales in the other classifications will be derived in the same way, the comparative sales in the different classifications will be accurate even though the sales figures are all overstated.

If shortages are large, they can be allowed for as follows: Suppose shortages in the men's department as a whole have been found to be 2 per cent of sales and that it is believed that the losses are distributed fairly evenly over all classifications. Letting 100 per cent equal the sales in men's underwear, the sales plus the shortages are 102 per cent. In dollars, this figure has already been found to be \$4,100. Therefore,

$$1.02 \times \text{sales} = \$4{,}100 \text{ and}$$

$$\text{Sales} = \frac{\$4{,}100}{1.02} = \$4{,}020.$$ The shortages, then, are \$80.

Determining Sales from Other Records

Once a month, a merchant counted his stock of \$1 ties. At the first of last month he had 98 on hand. He bought 144 during the month and he marked down 12 from \$1 to 59 cents for clearance and 6 from \$1.50 to \$1.00. He returned 22 to the manufacturer. At the end of the month he had 116 left. Returns from customers were four.

He computed his sales of \$1 ties for the month as follows:

Opening inventory		98	ties
Purchases	144		
Returns to vendors	22	122	
Markdowns in		6	
Total handled		226	
Closing inventory		116	
Sales and markdowns		110	
Markdowns		12	
Net sales		98	
Returns from customers		4	
Gross sales		102	ties

Deriving sales for a price line. Where periodic inventories are to be used to derive sales in units for a price line, a record must be kept not only of markdowns out of the price line but also of markdowns into it. For example, no records may have been kept of how many coats were sold at a $39.50 price line, but the following information may be available: Inventory a month ago, 25; inventory today, 12; receipts into stock, 24; marked down to lower prices, 6; marked from higher prices to $39.50, 3; transferred to a branch store, 8. The sales may be calculated as follows:

Opening inventory	25
Purchases	24
Markdowns in	3
Transfers out	(8)
Total merchandise handled	44
Closing inventory	12
Total deductions	32
Markdowns	6
Sales including shortage	26

In the case of unit analysis, the last figure would be regarded as the actual sales because of the difficulty of estimating the shortages for any particular price line.

It should be observed that when sales are derived from inventory data, the result of the calculation gives *net* not *gross* sales, since the closing inventory includes any goods that may have been returned. In the example, above, if 2 coats had been returned during the month, the net sales would remain 26 and the gross sales would be 28.

REVIEW QUESTIONS

1. Distinguish between a book inventory and a perpetual inventory.
2. What are the advantages of maintaining a book inventory?
3. What are the two ways of calculating book inventory at cost?
4. How may book inventories at retail be calculated?
5. Differentiate between *gross* and *net* markdowns.
6. How is stock shortage determined?
7. What are the major reasons for physical shortage?
8. Where do *leaks* occur in a store?
9. What are four ways to control physical shortage?

10. Why does the attitude of the store's staff have a great deal to do with shortage?
11. What are the reasons for clerical shortages?
12. How may clerical errors be curtailed?
13. What action is necessary if shortages are excessive?
14. Distinguish between book inventory and estimated physical inventory.
15. How may the book inventory device be used to "stagger" the taking of physical inventory? How are shortages to be handled that occur after the physical count but before the closing date?
16. What is an overage and what are the most common causes?
17. How may dollar sales be derived from inventory and purchase data?
18. What element is included in the derived sales figure? How may it be removed?
19. Explain how to derive sales from inventory and purchase data for a price line.

13

How to Value Inventory by the Cost Method

By means of the cost method of taking a physical inventory, the original cost of the goods on hand may be determined or, by means of the retail method, the present retail value of the goods on hand may be arrived at. But there still remains the question of the value to place upon this inventory for profit-figuring purposes. The goods may be worth today less than they cost originally.

Effect of Valuation on Profit

The value placed on the inventory is important because of the effect of the inventory figure on profits. If the closing cost inventory is overvalued, the cost of merchandise sold will be too small and the gross margin and the profit overstated. This can be noted in Table IV, where an evaluation of $10,000, on a closing inventory worth only $8,000, makes the cost of merchandise sold $40,000 rather than the correct $42,000. This in turn leads to a gross margin of $20,000 rather than $18,000. Since the expenses are not affected, the profit is overstated $2,000, by the same amount that the closing inventory was overvalued.

Conversely, an underevaluation of the closing inventory will overstate the cost of merchandise sold, and understate gross margin and profits.

Merchants are more anxious to avoid overstatement of profits than understatement. Overstatement results in unnecessarily larger income-tax payments and endangers future operations in that an attempt may be made to spend or distribute profits that are actually nothing but increases in the alleged value of stock on hand. Undervaluation acts as a hidden reserve of profits, and may curb expenditures.

TABLE IV

EFFECT OF INVENTORY VALUE ON PROFIT

	Inventories Correctly Evaluated	*Overstated Closing Inventory, First Year*	*Overstated Closing Inventory, Both Years*
Opening inventory, first year	$10,000	$10,000	$10,000
Purchases	40,000	40,000	40,000
Total	50,000	50,000	50,000
Closing inventory, first year	8,000	10,000	10,000
Cost of merchandise sold	42,000	40,000	40,000
Sales	60,000	60,000	60,000
Gross margin	18,000	20,000	20,000
Opening inventory, second year	8,000	10,000	10,000
Purchases	42,000	42,000	42,000
Total	50,000	52,000	52,000
Closing inventory, second year	9,000	9,000	11,000
Cost of merchandise sold	41,000	43,000	41,000
Sales, second year	60,000	60,000	60,000
Gross margin	19,000	17,000	19,000
Gross margin, two years	37,000	37,000	39,000

Hired managers, on the other hand, tend in the opposite direction. Where they are paid bonuses on their profits, there is danger that they may attempt to put too high a valuation on their stocks. Goods may be counted at cost or even above, when the current market price may be considerably less. To avoid such manipulation, close supervision by the owners is necessary, and sometimes the counting and evaluating of the stock are done by outside unbiased authorities.

It must be recognized, however, that overevaluation of a closing stock of one period means overevaluation of the opening stock of the next period. An overevaluated opening stock tends to overstate cost of merchandise sold and understate profits. The overstated profit of the first year may thus be offset by the understated profit of the following year. The calculations in Table IV indicate this reasoning also.

From these figures, it is evident that where the overstatement occurs only once, the profits for the two years combined are accurate. When inventories are consistently overstated, the first year of this practice shows an overstatement that is not wholly corrected, but the profit figures of later years will be nearly correct. They would be correct should opening and closing inventories be overstated by the same amount, as in the illustration. This would occur seldom in practice, however.

The tendency for errors in inventory valuation to offset one another over a period of years should not move merchants to minimize the importance of correct valuation. A hired buyer may overvaluate his stocks one year, show a handsome profit, and then resign, leaving his successor to show a loss the following year. Whenever there is any doubt as to whether a profit has been earned or not, the profit should be thrown forward into the next period. This is accomplished by evaluating low the closing inventory of a period; this conservative figure becomes the opening inventory of the next period.

Methods of Inventory Valuation

There are many different systems of arriving at what the accountant conceives to be a proper value for an inventory, but only four of these methods are used by retailers. They are:

1. The original-cost method
2. The cost-or-market-whichever-is-lower method
3. The retail method.
4. The last-in-first-out method, called the "Lifo" method.

Original-Cost Method

For merchandise that is staple and that depreciates negligibly, the original-cost method is satisfactory. The original cost method may reflect the cost of the particular items in stock or the cost of the newest purchases, as explained in page 201 as the FIFO method. The goods at inventory time are worth approximately what was originally paid for them. But for fashion merchandise and for staples that may have depreciated in value, the method defers losses due to depreciation to the period in which the goods are sold rather than taking them in the period in which losses became apparent. Thus, if goods are valued at a $10,000 original cost figure when they could be replaced today for $8,000, the profits would not be reduced by the depreciation of $2,000 that has taken place. When the goods are ultimately sold at a reduced retail price, however, the loss would then be registered in the form of low sales at a relatively high cost. Were tax rates stable and the personnel constant, it might not make any difference when losses are recognized, but tax rates tend to change year by year and buyers also. Losses, accordingly, should be recognized as soon as possible and not disregarded until the goods are sold at distress prices.

The Cost or Market Method

Many stores in the field of general merchandise value their inventories at original cost or market value, whichever is lower. This means that if an article that cost $1 has a market or replacement cost of $1.10, it will be valued at $1 because the appreciation of 10 cents would be erroneously recognizing a paper-profit of this amount—a real profit is not earned until the goods are actually sold. If it has a replacement value of 90 cents, it will be valued at 90 cents. By using the lower of the two figures, profits are stated at a minimum. The rule may be justified on the basis that experience shows that most goods that can be replaced for less than cost have to be marked down to sell, whereas most goods that will have to be replaced at higher than cost cannot, or may not practically, be marked up to sell at a higher price than the one originally intended. Most merchants of general merchandise increase prices only when replacements are actually made at higher costs and not when they hear that replacements will cost more in the future. Even when present stock is marked up in anticipation of a higher replacement cost, there is still question as to whether the goods will sell at this new price, while when goods are marked down, there is virtually no hope of selling them eventually at the original retail price.

An Example of Cost or Market Method

	Original Cost		*Market Value*
Coat inventory	$8,000		$8,500
Dress inventory	$6,000		$5,000
Inventory valuation:			
Coats at cost		$ 8,000	
Dresses at market		5,000	
Total		$13,000	

1. *Quotation Method.* If the store takes physical inventory at original cost prices, the market price as distinct from the original cost price may be determined by one of four methods. The standard method is to obtain evidence from the wholesale market as to the current price quotation on identical goods. This may be done by inspecting vendors' catalogs and price lists, market quotations in periodicals, or by direct inquiry. Allowance would have to be made for deterioration if the goods in the inventory are in imperfect condition.

The difficulty of obtaining market quotations for thousands of different items in the inventory makes the quotation method impracticable for all but staple commodities handled in considerable quantity.

2. *Markdown method.* A satisfactory method of determining market value for fashion merchandise, for which market quotations are not readily available, is to keep a record on price tickets of original retail prices as well as current retail prices.

An Example of the Markdown Method of Depreciation

Price Ticket

XYZ STORE
Dept. 25
~~$16.95~~
$12.50
4910754*

* Cost code for $10.75

Original markup: $\frac{16.95 - 10.75}{16.95} = 36.6\%$

Derived cost: $\$12.50 \times (100\% - 36.6\%) =$
$\$12.50 \times .634 = \$7.93.$

A markup figure may then be determined from each cost and original price to apply to the current retail price. For example, a price ticket may indicate that an article that cost 60 cents has a current retail price of 80 cents but that it was originally marked to sell at $1.00. The buyer was planning a markup of 40 per cent. Since he has found it necessary to reduce his price 20 per cent, it is logical to assume that the cost also has depreciated 20 per cent to 48 cents. This market value may be obtained readily by multiplying the present retail price, 80 cents, by the complement of the original markup, 60 per cent.

The chief objection to this plan is the amount of calculation it entails. All price tickets must carry original retail prices; separate markup percentages must be computed for each item that is now reduced in price; and the present retail prices of each of these items must be converted to market value.

The retail method of inventory, to be discussed in the next chapter, is based upon the principle just outlined, but it computes the cost of the entire inventory of each department in one operation rather than evaluating each item separately.

3. *Aging method.* Another way to determine depreciation and market value from actual cost figures is to set up a depreciation schedule on the basis of time limits. For example, past experience may show that most merchandise that is in the store less than three months is salable without markdowns and is worth about what was paid for it. But goods three to six months old may require such heavy markdowns to sell as to indicate that they are worth only 75 per cent of their cost. Goods between six months and a year old may be valued at 50 per cent of their cost; goods from one year to two years at 25 per cent, and goods more than two years at zero per cent. The cost inventory, then, may be analyzed by age and the market value determined as the following example shows:

INVENTORY AT END OF YEAR

Age	*Actual Cost*	*Rate of Depreciation*	*Market Value*
Less than 3 months old	$30,000	0%	$30,000
3–6 months old	12,000	25	9,000
6–12 months old	4,000	50	2,000
12–24 months old	3,000	75	750
Over 2 years old	1,000	100	000
	$50,000		$41,750

While this plan eliminates individual judgment as long as the depreciation rates and age brackets remain unchanged, it is arbitrary and assumes a relation between value and age that only partially exists. Of course, the rates of depreciation should vary with the importance of style in the merchandise under consideration. In some staple lines, goods a year old may still have full value.

4. *Appraisal method.* Another possible method of finding market value is the appraisal method. An expert in the line who is in close touch with current market values takes an in-

ventory, judging the value of each item. Thus market value is obtained directly without making use of records of original cost. This method is commonly used when a stock is being sold to another dealer, but it is not so common for periodic inventory valuation.

Allocating transportation charges.[1] When inventories are taken at cost, a part of the transportation charges paid on purchases should be added to the value of the closing inventory. While transportation costs are rightly regarded as a part of the cost purchase price, it is not common to add to the cost price of each article an amount to cover its transportation to the store. Such a record on each price ticket would be cumbersome and difficult to compute whenever a number of items appear on one invoice. The amount applicable to one item will frequently be only a fraction of a cent.

The total transportation costs to the store or department should be accumulated and expressed as a percentage of total purchases. This percentage should then be applied to the closing inventory, preferably at actual cost before depreciation. For example, a store may compute its closing inventory valuation as follows:

	Cost		
Opening inventory	$20,000		
Purchases	69,000		
Transportation charges	1,000		(1.45% of purchases)
Total merchandise handled	$90,000		
Closing inventory at original cost, not including share of transportation		26,614	
Transportation applying against closing inventory		386	(1.45%)[a]
Closing inventory including transportation		27,000	
Depreciation in inventory		2,000	
Final inventory valuation		$25,000	

[a] The rate of transportation may be applied to market value (after depreciation) rather than to the billed cost, provided a consistent practice is followed.

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[1] Many small stores operating on the cost or cost or market method fail to make the adjustment for transportation charges explained here. In fact, many of them treat transportation as an expense of doing business, not as a part of the purchase price of the goods.

The cost of the merchandise sold is the difference between $90,000 and $25,000, or $65,000. The opening inventory for the next period is $25,000.

Under the retail method of inventory, to be explained in the next chapter, it is not necessary to calculate the amount of transportation in the closing inventory as done above in connection with the cost method.

The final method of inventory valuation, the LIFO method, is considered in Appendix C. Since the LIFO method is not used in connection with merchandising analysis, it is not considered at this point.

REVIEW QUESTIONS

1. What is the effect on profits of an over-valued closing inventory? Of an over-valued opening inventory?
2. What is the effect on profits of an under-valued closing inventory? Of an under-valued opening inventory?
3. What is the typical buyer's attitude toward inventory valuation? Why?
4. What is the typical merchant's attitude? Why?
5. To what extent are errors in inventory valuation compensated for later on?
6. What are the four methods of inventory valuation which a retailer might choose?
7. What is the "cost or market" method?
8. What are four ways to estimate market value, once the actual cost is determined?
9. Why should transportation charges be included in inventory valuation? How may this be done?
10. If the rate of transportation this period is higher than last period, does the method of estimating transportation in the closing inventory give a distortion?

14

How to Value Inventory by the Retail Method

Mechanics of the Retail Method

The retail method of inventory is a method of approximating for each group of related merchandise the "cost or market value, whichever is lower" without the bother of determining market prices of individual items. Thus, it frequently proves to be a more satisfactory system than those described in the previous chapter.

It involves: (1) the taking of physical inventory for each group at current retail selling prices only by listing and totaling the prices appearing on price tickets, or the estimating of physical inventory by methods described in Chapter 12; (2) the determination of the markup percentage on the total merchandise handled; and (3) the derivation of the cost or market value of the inventory from the retail by means of this markup percentage. The total retail value of the stock on hand is reduced to a cost or market value by the one operation of multiplying the retail total by the complement of this markup percentage. This eliminates the whole system of cost codes and similar records to determine what was actually paid for each item in stock, and the separate determination of a market value for each item. Although the retail method of inventory had its inception in the department store field, its popularity has spread to many other kinds of stores.

It should be observed that the retail method is much more than counting goods at retail prices. A store might take periodic inventories at retail prices for the purpose of guiding buying, but may depend upon cost data to determine inventory value for profit-figuring purposes. It then would not be on the retail method of inventory. To warrant the use of this term, the cost price must be determined from the aggregate retail value of the group of goods by means of the markup percentage.

Departmentizing necessary. It should also be observed that the groups of merchandise to which the retail method is applied must be homogeneous. The method is essentially a system of departmental control. It is not applicable to an aggregate stock comprising many different types of goods. Since markups and rates of sale vary greatly by merchandise type each department must be analyzed as a separate unit.[1]

Finding Cost from Retail

A shoe merchant took his inventory at retail prices only at the end of this year and found a stock of $40,000 on hand. This was his first year of operation and his invoices, reflecting his purchases, totaled $75,000 at cost. Since he had calculated the retail value of each invoice and made a note of it on the invoice at the time the goods were received, he was able to total his invoices at retail also and found they totaled $125,000. He then calculated the cost value of inventory as follows:

$$\frac{\$75{,}000}{\$125{,}000} = 60 \text{ per cent, the complement of the initial markup per cent.}$$

$$\$40{,}000 \times .60 = \$24{,}000, \text{ the cost value of the closing inventory.}$$

Applying the markup percentage. The markup percentage used to find cost[2] from the retail is the markup on the total merchandise handled in an appropriate merchandise grouping —that is, the markup on the sum of opening inventory plus purchases. This difference between the cost and the retail of the total merchandise handled divided by the retail is called initial markup percentage.[3]

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[1] For the principle involved in establishing groups or departments, see Chapter 18.

[2] When the term "cost" is used in connection with the retail method of inventory, "cost or market, whichever is lower" is understood.

The complement of the markup percentage is *100 per cent minus the markup percentage.* It can also be obtained directly by dividing the total merchandise handled at cost by the equivalent retail figure. The following example shows the calculation:

	Cost	*Retail*	*Markup*	
Inventory at beginning	$20,000	$35,000	$15,000	
Purchases	70,000	110,000	40,000	
Total merchandise handled	$90,000	$145,000	$55,000	37.931%
Complement of markup per cent				62.069
				100.000%
Retail inventory at end		40,250		
Cost inventory at end ($40,250 × 62.069%)	24,983			
Gross cost of merchandise sold	$65,017			

The initial markup of $55,000 is expressed as a percentage of $145,000, giving 37.931 per cent. For accurate results, it is desirable to carry this figure out to three or four places beyond the decimal point, although for rough calculation for practice purposes one decimal place is sufficient. The complement of the markup percentage is 100 per cent minus 37.931 per cent, or 62.069 per cent. This figure can be obtained also by dividing $90,000 by $145,000.[4]

Derivation of cost inventory. Of the total merchandise handled, $145,000 at retail, there is left on hand at the end of the period, $40,250. The retail method is based on the assumption that the markup on the part remaining ($40,250) is the same as the markup on the total ($145,000). This would always be true were each article purchased given the same markup percentage. Even when some of the total purchases may have been marked up as high as 50 per cent and others as low as 25 per cent, it still is generally true that both high and low markup goods are proportionately represented in the closing inventory. The markup of 37.931 per cent on the total is taken to represent fairly the markup on that portion of the total that is left on hand.

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[3] Initial markup is perhaps the best term to use in describing this concept. Other terms sometimes used as synonyms are cumulative markup, cumulative initial markup, markon, initial markon, and cumulative markon.

[4] It should be noted that the markup percentage is not found by an unweighted average of the markup percentages on opening inventory and on purchases, but by dividing the aggregate dollar markup by the total merchandise handled.

Because the closing stock is retailed at $40,250 and has a markup of 37.931 per cent, the cost of the stock is found readily by multiplying $40,250 by 62.069 per cent, the complement. This gives a derived cost inventory of $24,983, which is accepted as the correct cost valuation of the stock on hand.

It sometimes happens that purchases having a low markup sell more rapidly than purchases having a high markup. In this case the closing inventory may be composed largely of high markup goods, even though the markup has been reduced by the low markup goods handled but already sold. When this happens, the retail method overstates the cost inventory by understating the markup.[5]

Calculation of total merchandise handled. The markup percentage used in inventory valuation has been explained as the difference between the cost and retail values of the total merchandise handled divided by the retail. The total merchandise handled, in turn, is the sum of opening inventory plus purchases, but the purchase figure used is really a composite of a number of items. Returns and allowances from manufacturers are subtracted from the gross purchase figure at both cost and retail. Purchases from other departments, called transfers in, are added, and transfers out are subtracted in the same way as returns to vendors. Transportation charges are added to the cost purchase figure, and additional markups to the retail purchase figure. The latter are upward adjustments in the retail value of purchases occurring after the goods are first put into stock. The retail purchase figure is furthermore reduced by "revisions of retail downward," which represent largely downward corrections of errors in the original retail prices of purchases, but these revisions definitely do not include markdowns that represent reductions reflecting depreciation in the value of the goods. The following example indicates in detail how the total merchandise handled is computed:

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[5] How to cope with this problem of high and low markup goods is explained more fully in the next chapter.

	Cost		*Retail*		*Markup per cent*
Inventory at beginning		$20,000		$35,000	
Gross purchases from vendors	$72,000		$115,000		
Less returns and allowances	3,000		4,700		
Net purchases from vendors		69,000		110,300	
Transfers in	1,000		1,600		
Less transfers out	1,500		2,400		
Net transfers out		—500		—800	
Transportation charges		1,500			
Additional markups				700	
Revisions of retail downward (not markdowns)				—200	
Total purchases plus additions		70,000		110,000	
Total merchandise handled		90,000		145,000	37.931

It is most important that the markup to be applied to closing retail inventory be calculated exactly as indicated here. If certain items are omitted or others added, the cost value of the inventory will be distorted.[6]

Applying the retail method between physical inventories. The retail method of inventory may be used in connection with book or estimated physical inventories calculated between physical inventory dates. It is a common practice to prepare monthly profit and loss statements based upon estimated physical inventories, even though physical inventories are taken only semiannually.

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[6] See Appendix B for a discussion of this point.

For example:

	Cost	*Retail*	*Markup*	
Inventory at beginning of season	$20,000	$35,000	$15,000	
Purchases for 1st month	9,000	15,000	6,000	
Total merchandise handled	$29,000	$50,000	$21,000	42%
Net sales 1st month		12,000		
Net markdowns 1st month		500		
Discounts to employees		100		
Estimated shortages (1 per cent)		120		
Total deductions		$12,720		
Closing estimated retail inventory ($50,000 — $12,700)		37,280		
Closing estimated cost inventory ($37,280 × .58)	21,622			
Gross cost of merchandise sold	$ 7,378			

By the above means, it is possible to estimate, at any time, closing cost inventory and profits without taking a physical inventory. The error will be limited to error in estimating shortages.

Book inventories essential. Even though a merchant may not be interested in interim profit and loss reports, it is nevertheless important that he calculate a book inventory to compare with his physical inventory. This is necessary in order to apprehend actual stock shortages. Also, the Federal tax authorities insist that stores using the retail method maintain retail purchase and price change records so as to determine book inventories.[7]

Accordingly, a complete statement of the retail method includes retail deductions from total merchandise handled and a closing book or estimated physical inventory. This is illustrated by continuing with the figures on page 152:

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[7] This is done so as to apprehend stores that try to establish fictitious markups by charging purchases into stock records at exhorbitant markups and by marking the physical stock less. For example, goods costing $6,000 might be entered on the records at $12,000 retail, a markup of 50 per cent. The actual goods may be marked $10,000. With the fictitious markup, the derived cost value is only $5,000. The result is to understate the closing inventory $1000 and profits by the same amount. A perpetual inventory system acts as a check on such manipulation.

	Cost	Retail	Markup Per Cent
Total merchandise handled for season	$90,000	$145,000	37.931
Retail deductions for season			
Net sales		100,000	
Net markdowns		3,500	
Discounts to employees and customers		500	
Total		$104,000	
Closing book inventory		$ 41,000	
Closing physical inventory		40,250	
Merchandise shortage		$ 750	
Closing cost inventory $40,250 × .62069	24,983		
Gross cost of merchandise sold	$65,017		

Since the shortage in the above example is a retail, not a cost figure, the loss of $750 worth of retail stock should not be assumed to mean a corresponding loss in profits. The real loss to the store is the cost of the goods that had a $750 retail value. Since the markup on total merchandise handled is about 37.9 per cent [($145,000 — $90,000)/($145,000)], the cost of the merchandise lost must have been about $466 (62.1 per cent of $750). In practice it is not necessary to calculate this figure since the multiplication of the physical retail inventory by the complement of the markup gives a cost inventory that reflects the cost of the shortage—this is $24,983 in the example above.

Finding cost of book and estimated physical inventories. Sometimes there is a question as to which of the following retail inventories should be reduced to cost: the physical inventory, the estimated physical inventory, or the book inventory. The following rules outline the best procedure: (1) If profits are being computed at the end of a period when physical inventory is taken, the physical inventory should be reduced to cost by the complement of the markup percentage after it has been compared with the retail book inventory to determine the shortage; (2) if profits are being computed between physical inventories, the estimated physical inventory at retail should be reduced to cost for internal control purposes; and (3) between physical inventories, if the store or department does not estimate shortages, the retail book inventory must be reduced to cost.

Records Necessary with the Retail Method

The problem of system in connection with the retail method of inventory is to insure that all invoices are marked correctly with the prices marked on the price tickets and that all price changes are reported on "price change" forms. In most stores, the buyer writes the retail price of each item on the invoice, and the office computes the markup and the total retail for each invoice. Information for price tickets should be taken from the marked invoices to insure that the retail on the goods agrees with the retail reported to the office. If retail prices

Price Changes

A. Downward

Markdowns—not included in total merchandise handled. Do not affect markup per cent.

Revisions of retail downward—deducted from total merchandise handled. Do affect markup per cent. Include: (a) cancellations of additional markups; (b) correction of clerical errors; and (c) price reductions accompanying cost rebates from vendors.

B. Upward

Additional markups—added into total merchandise handled. Do affect markup per cent.

Markdown cancellations—not added into total merchandise handled. Do not affect markup per cent. Subtracted from markdowns.

on invoices are marked lower than prices on goods, there will be a tendency to create overages or at least to hide shortages. The practice also allows buyers to take unrecorded markdowns to the extent of the difference between invoice and actual prices, without reporting the change.

Kinds of price change. There are four distinct types of price change under the retail method. It is important that the forms used clearly indicate the type involved. There are:

1. Markdowns.[8]
2. Markdowns cancellations.[9]
3. Additional markups.[9]
4. Revisions of retail downward. This is the opposite of an additional markup; that is, it is a reduction in price that is subtracted from the actual purchase figure before the total merchandise handled is determined. It is generally used (1) in the correction of an error, (2) when the cost price of purchases is revised downward, or (3) when an additional markup is canceled.[9]

Since the first two do not affect the markup and the last two do, it may be wise to use two sets of forms, one for markdowns and cancellations and the other for additional markups and revisions. All may be included in one form, however, as Figure 17 indicates. Figure 18 represents a form used in another store for price increases, both additional markups and markdown cancellations.

The accurate reporting of all these price changes requires considerable supervision. Some stores insist that a central force make all price changes on price tickets, that no unused tickets be allowed in selling departments, and that machine-made tickets only be used. In other stores, the reporting is left to the manager or buyer, but large shortages are held in such a serious light as to make buyers careful to report all changes.

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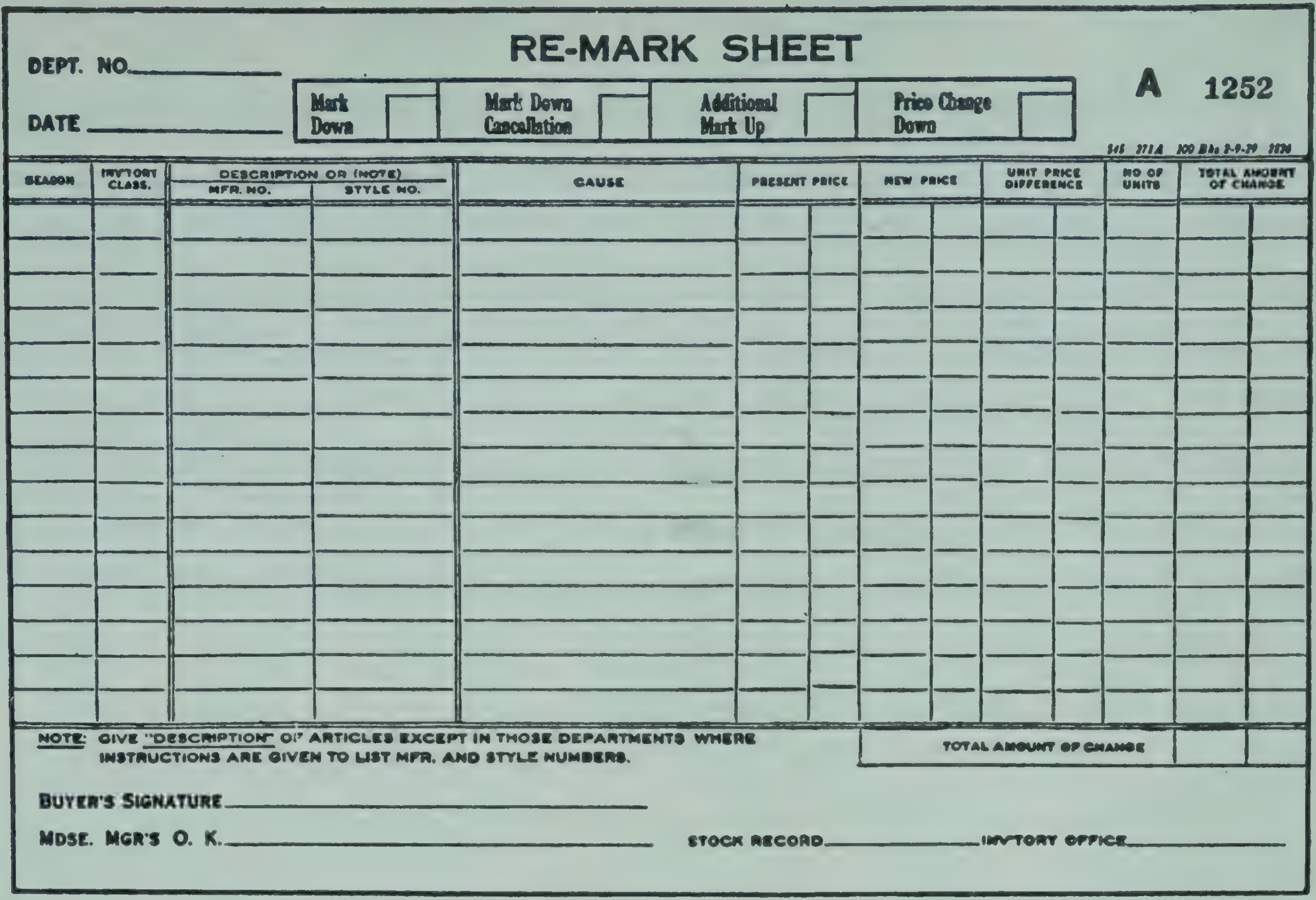
[8] Discount to customers and employees are price changes, but are generally recorded on the sales check and therefore do not require a special reporting.

[9] See Appendix B for a complete explanation.



RE-MARK SHEET

A 1252

DEPT. NO.__________

DATE __________

Mark Down ☐ Mark Down Cancellation ☐ Additional Mark Up ☐ Price Change Down ☐

SEASON	INV'TORY CLASS.	DESCRIPTION OR (NOTE) MFR. NO.	DESCRIPTION OR (NOTE) STYLE NO.	CAUSE	PRESENT PRICE	NEW PRICE	UNIT PRICE DIFFERENCE	NO OF UNITS	TOTAL AMOUNT OF CHANGE

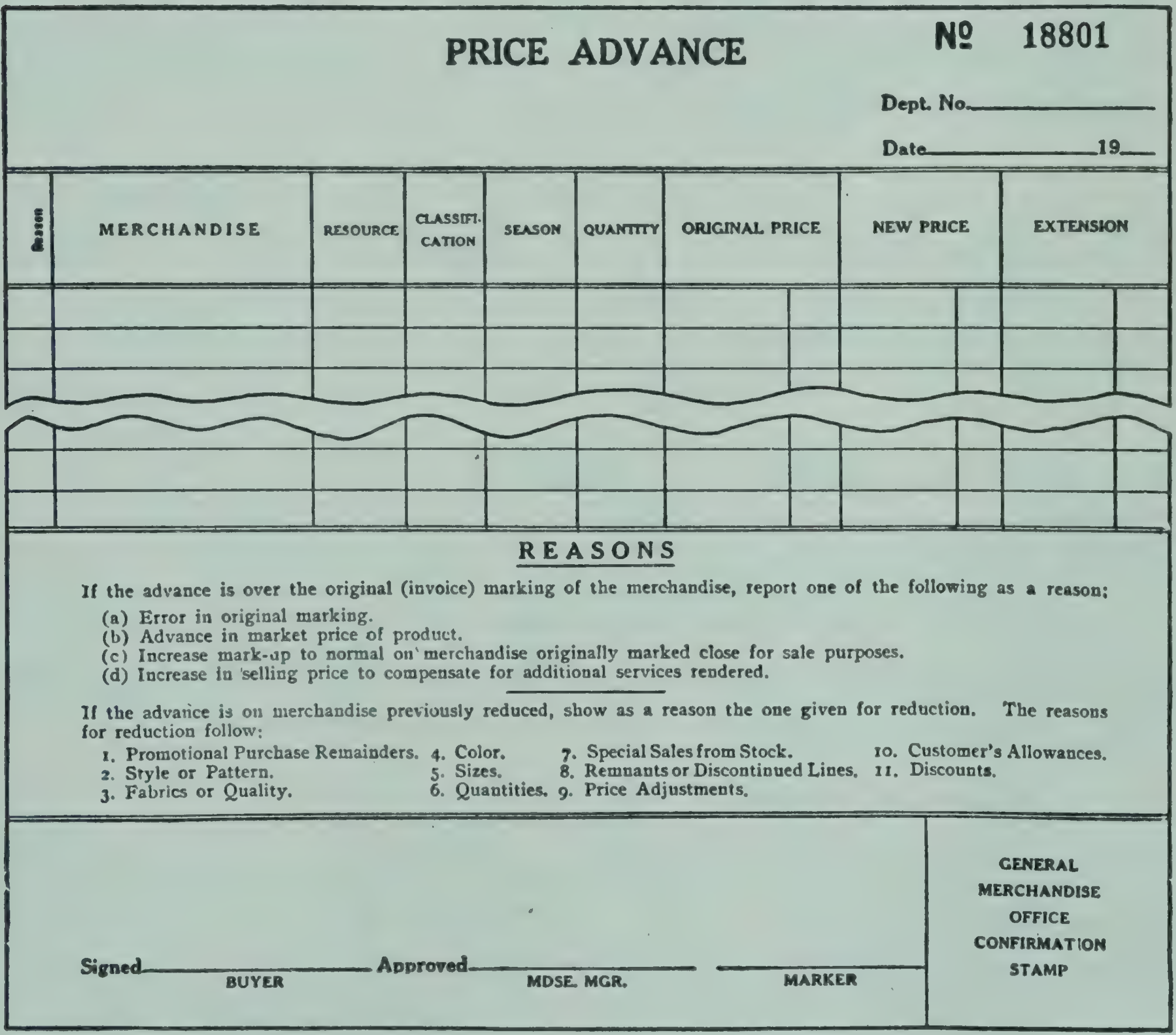
NOTE: GIVE "DESCRIPTION" OF ARTICLES EXCEPT IN THOSE DEPARTMENTS WHERE INSTRUCTIONS ARE GIVEN TO LIST MFR. AND STYLE NUMBERS.

TOTAL AMOUNT OF CHANGE __________

BUYER'S SIGNATURE__________

MDSE. MGR'S O. K.__________ STOCK RECORD__________ INV'TORY OFFICE__________

FIGURE 17. Re-Mark Sheet.



PRICE ADVANCE

№ 18801

Dept. No.__________

Date__________19___

Reason	MERCHANDISE	RESOURCE	CLASSIFI-CATION	SEASON	QUANTITY	ORIGINAL PRICE	NEW PRICE	EXTENSION

REASONS

If the advance is over the original (invoice) marking of the merchandise, report one of the following as a reason;

(a) Error in original marking.
(b) Advance in market price of product.
(c) Increase mark-up to normal on merchandise originally marked close for sale purposes.
(d) Increase in selling price to compensate for additional services rendered.

If the advance is on merchandise previously reduced, show as a reason the one given for reduction. The reasons for reduction follow:

1. Promotional Purchase Remainders.
2. Style or Pattern.
3. Fabrics or Quality.
4. Color.
5. Sizes.
6. Quantities.
7. Special Sales from Stock.
8. Remnants or Discontinued Lines.
9. Price Adjustments.
10. Customer's Allowances.
11. Discounts.

Signed__________ Approved__________ __________
BUYER MDSE. MGR. MARKER

GENERAL MERCHANDISE OFFICE CONFIRMATION STAMP

FIGURE 18. Price-Advance Form.

Without careful supervision, unsound practices may develop. For example, a buyer may purchase 1,000 items for 60 cents each and mark one half of them at a regular price of $1.00 each and the other half at 89 cents for a special sale. Before the sale takes place, he may re-mark and sell the goods originally marked 89 cents at the regular price of $1.00, without reporting the price increase as an additional markup. This results in too small a retail figure on the books for total merchandise handled and too small a book inventory. Considerable shortage in the physical inventory could thus be covered up. Furthermore, the initial markup figure would be understated, and thus the closing cost inventory would be overstated. To avoid such developments, it is desirable to require inspector-wrappers to pass no merchandise unless the price on the ticket agrees with the price appearing on the salescheck.[10]

Complete Retail Inventory Statement. A complete operating statement arranged for use in connection with the retail method of inventory is as follows:

	Cost			*Retail*		
Inventory at beginning			$20,000			$ 35,000
Gross purchases	$72,000			$115,000		
Less returns and allowances (including rebates)	3,000			4,700		
					$110,300	
Net purchases from vendors .		$69,000				
Transfers in	1,000			1,600		
Transfers out	1,500			2,400		
Net transfers out		—500			—800	
Transportation charges		1,500				
Additional markups					700	
Revision of retail downward					—200	
Total purchases plus additions			70,000			110,000
Total merchandise handled .			90,000			145,000
Markup per cent 37.931						

---

[10] For a discussion of the office procedure in connection with the retail method, see Appendix B,

	Cost	Retail		
Gross sales		110,000		
Less returns and allowances		10,000		
Net sales			100,000	
Gross markdowns		4,500		
Less markdown cancellations		1,000		
Net markdowns			3,500	
Discounts to customers and employees			500	
Shortage allowance (1 per cent of net sales)			1,000	
Total deductions				105,000
Estimated physical inventory				40,000
Book inventory (shortage allowance excluded)				41,000
Physical inventory (actual shortage $750) (cost: $40,250 × .62069)	24,983			40,250
Gross cost of mdse. sold	65,017 [a]			
Cash discounts earned [b]	3,000			
Net cost of mdse. sold	$62,017			
Alteration and workroom costs [b]	1,000			
Total merchandise costs	$63,017			
Gross margin (net sales minus total merchandise costs)	36,983			
Expenses	30,000			
Operating profit	$ 6,983			

[a] The gross cost of merchandise sold may also be found by multiplying the total deductions, corrected for actual shortages, by the complement of the markon. Total deductions = $105,000 — $250 (error in shortage estimate) = $104,750. $104,750 × .62069 = $65,017, the gross cost of merchandise sold.

[b] The adjustments for cash discounts and alteration charges are explained in Chapter 3 and the calculation of "cash discounts earned" in Appendix A.

REVIEW QUESTIONS

1. What are the three distinguishing features of the retail method of inventory?
2. Is the retail method basically a store-wide or a departmental system of control? Explain.
3. Is the initial markup the same as the markup on purchases?

4. How may the complement of the initial markup percentage be found without calculating the initial markup percentage first?
5. Explain, by means of an example, how the cost value of the inventory can be derived from the retail value and the initial markup percentage.
6. What are all the elements that enter into *total merchandise handled at cost*? Into *total* merchandise handled at retail?
7. How may the retail method of inventory be applied between physical inventory dates?
8. Why is it necessary to maintain book inventories in connection with the retail method?
9. Distinguish between retail shortage and cost shortage.
10. What are sound rules for determining whether to reduce to cost (*a*) the physical inventory, (*b*) the book inventory, (*c*) the estimated physical inventory?
11. Which four types of price changes must be distinguished and recorded in connection with the retail method?
12. Which two kinds of price changes affect the initial markup percentage? Which two do not?
13. Explain how careless reporting of price changes may cover up shortages.
14. In the "complete retail inventory statement" given on pages 258–9, at what point do the cost and retail methods coincide?
15. In the statement referred to in question 14, why is there no entry for transportation at retail? Why no entry for cost of additional markup?

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Kumara Park (East), BANGALORE-1.

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How to Evaluate the Retail Method of Inventory

Advantages of the Retail Method

It is not enough to know how to apply the retail method; its points of superiority over the cost method and its limitations must also be evaluated.

Simplifies physical inventory. It is clearly less work to count goods at plainly marked current retail prices than to record and decipher cost codes or to turn to records other than the price ticket for cost information. Also, there is less danger of error in the calculation of aggregate values.

Perpetual inventory. While it is possible to maintain a perpetual inventory system in terms of either cost or retail prices (or in terms of units) without introducing the retail method of inventory, book inventories must be kept if the retail method of inventory is to be introduced.

Perpetual book inventory makes it possible to control purchases closely, to analyze markup and markdown practices, to determine stock shortages, and to calculate profit at frequent intervals between physical inventory dates. In addition, as discussed in Chapter 12, it is useful in determining the amount of loss in case of fire or other disaster. Thus, the retail method of inventory provides data about inventories and pricing that every merchant should have in order to merchandise his store succesfully.

Transportation charges automatically included in the closing inventory. The cost value of stock on hand is more than the price paid vendors for it. It includes the cost of getting the inventory to the store. Transportation adds to the value of the inventory. An advantage of the retail method of inventory is that it automatically includes the proportionate share of the transportation charges on purchases in the closing cost inventory. Under the cost method, the rate of transportation should be obtained and applied to the inventory, a rather cumbersome procedure as explained in Chapter 13. The following example explains how the retail method includes transportation in the inventory:

	Cost	*Retail*	*Markup Per Cent*
Purchases	$10,000	$17,000	
Transportation charges (2%)	200		
Total merchandise handled	$10,200	$17,000	40
Closing retail inventory		8,500	
Closing cost inventory	5,100		

It is evident that one-half of the retail stock is left. The *billed cost* of the closing inventory is only $5,000 since the total stock cost $10,000. Transportation charges, however, average 2 per cent of purchases; therefore, 2 per cent, or $100, should be included in the closing inventory, giving $5,100, the figure obtained under the retail method directly. The introduction of an opening inventory figure does not cause any difficulty, since transportation is already included in the cost of the opening inventory. Since markup is based on a total merchandise-handled figure that includes transportation, the markup is less on account of this factor. Consequently, the cost inventory is increased by the amount of transportation that applies against it.

Depreciation provided for by the retail method. One of the major advantages of the retail method is that it automatically gives an inventory valued at cost or market, whichever is lower. Thus, it automatically allows for depreciation. This is due to the fact that the *current* retail value is reduced to cost by the complement of the markup. When the current retail value is less than the original retail, the application of the complement of the markup reduces the cost value correspondingly. The following example shows how the cost value is reduced by markdowns.

	Cost	*Retail*	*Markup Per Cent*
Inventory at beginning	$ 6,000	$10,000	
Purchases—net	24,000	40,000	
Total merchandise handled	$30,000	$50,000	40
Original value of closing inventory	6,000	10,000	
Markdown taken on inventory		1,000	
Present value of closing physical inventory	5,400	9,000	
Depreciation resulting from markdowns	600		

Here there is a markup of 40 per cent, and of the $50,000 total merchandise handled at retail, $9,000 at present value is still in stock. But these goods were originally priced at $10,000, before markdowns of $1,000 were taken on them. Since the markup averages 40 per cent, goods that were first retailed at $10,000 cost $6,000; but under the retail method, the *present* retail value of $9,000 is reduced to cost by means of the complement of the markup. Sixty per cent of $9,000 is $5,400, the market value. The stock that cost the store $6,000 is now valued at $5,400. The markdown of $1,000 on the retail stock reduces the cost inventory $600. The cost of merchandise sold is thus increased $600, and profits are decreased $600. As a general statement, then, the immediate effect of a retail markdown is to reduce profits by the *cost of the markdown,* which is the retail markdown multiplied by the complement of the markup. The effect of a markdown may also be stated as reducing the cost value of the inventory in the same proportion as the retail is reduced. In the example, the retail value is reduced from $10,000 to $9,000, or 10 per cent. The original cost value of $6,000 is also reduced 10 per cent to $5,400. A second effect of a markdown is to reduce sales that were originally anticipated; this is only a contingent loss and not a loss in investment value.

Effect of markdowns on inventory value. It should be noted particularly that markdowns do not reduce the markup percentage, since they are not subtracted from the retail purchase figure used in the computation of the markup. Were markdowns to be subtracted from the retail in computing the total merchandise handled, the markup would be reduced and the closing inventory would be overvalued. In the example, were the $1,000 markdowns to be deducted in finding total merchandise handled, the total merchandise handled would be $49,000 rather than $50,000, and the markup, 38.77 per cent. If this were applied to the closing retail inventory of $9,000, the derived cost would be $5,510.70 rather than $5,400. The cost would not be reduced in proportion to the decline in the retail value.

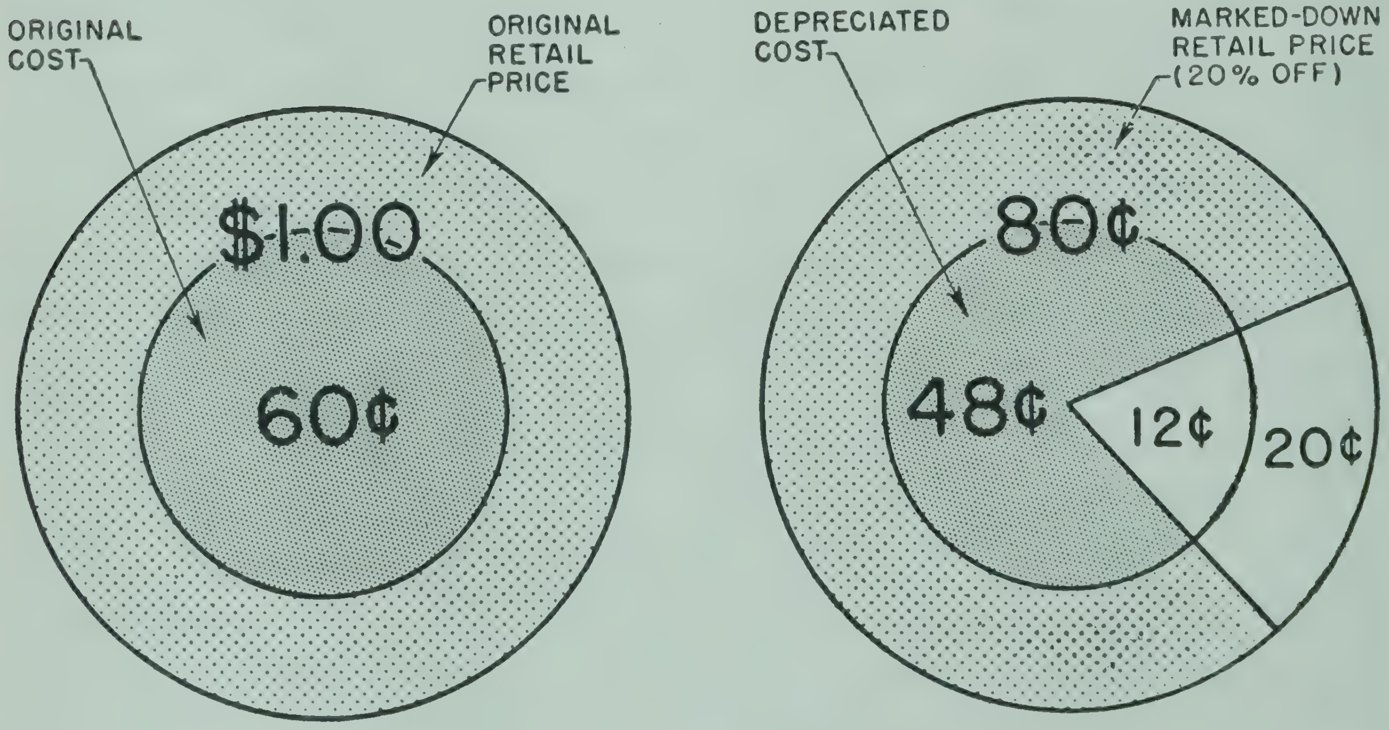

FIGURE 19. Effect of Markdowns on Cost Price.

The Internal Revenue Bureau has accepted the method of finding market value based on the exclusion of markdowns in the calculation of total merchandise handled, provided markup is correctly computed and provided records of sales and markdowns are kept accurately. It accepts the premise that for every line of goods in every store there is a normal relation between cost and retail. This relation is expressed by the markup on all merchandise handled. If a store fails to sell its stock at this markup and is forced to reduce its price, this fact of reduction is evidence that the market value has declined in proportion. It is assumed that, as a general rule, a buyer of a department with 40 per cent markup would not go into the market and invest $6,000 in merchandise that he could retail for only $9,000, for this would be markup of only 33⅓ per cent. If $9,000 is a fair retail value today, $5,400 is all that the store would normally pay to replace the goods. Stated in terms of an individual piece of merchandise, an item costing 60 cents and marked at $1.00 normally would not be repurchased for 60 cents if it had to be reduced to 80 cents to make its price competitively right. It would have a market value of only 48 cents.

Legal requirements. The validity of this reasoning is based upon two premises: first, that the markup represents a fair ratio between cost and retail, and second, that the current retail prices of the goods in stock represent their fair present-day retail values. Should the markup be manipulated to give an erroneous relation between cost and bona fide original retail prices, or should merchandise be carried in stock at original retail prices when the goods are unsalable at these prices, the retail method would fail to give satisfactory market values.

To insure that these two essentials are observed, the Internal Revenue Bureau insists that: (1) original retail prices entering into the retail purchase figure be those at which the goods are actually offered to the public; (2) that markdowns be taken promptly to keep retail prices right; (3) that all markdowns be recorded so that the reasonableness of the markup may be checked; and (4) that a clear distinction be made between additional markups and markdown cancellations. Additional markups are additions to the original retail price of goods and are to be treated as corrections in the retail purchase figure used in computing the markup. Markdown cancellations are restorations of marked-down goods to their former price or to a price between the former and marked-down price. Additional markups, as explained, are an addition to the retail purchase figure and thus enter into the "total merchandise handled" at retail and *increase* the markup percentage. Markdown cancellations reduce the gross markdown figure, but have no effect on the markup.

While the retail method requires the reporting of price changes on all goods sold at prices different from those on the invoice, it does not require that the entire quantity of an item be marked down, if only a few are to be sold at the reduced price. For example, a store may have on hand 10,000 pairs of hosiery that are to be offered for one day at a special price of 59 cents, whereas the regular price is 79 cents. If the buyer expects to sell only 1,000 pairs in the sale, he need take a markdown on 1,000 only. In some instances, it is deemed sufficient to report the old and the new prices on the saleschecks and to allow the office to total the markdown. While the retail method does to some extent encumber the process of changing retail prices, accurate records are very useful in merchandising, and it is also important in selling to have price tickets agree with the prices asked for the goods.

Valuation of closing inventory when marked-down goods are sold. From the above discussion of markdowns and their effect on inventories, it must not be assumed that markdowns on goods sold during a period reduce the cost value of the closing inventory. For example, markdowns of $1,000 may be taken during a period, and the reduced goods may all be sold, leaving a closing inventory composed entirely of goods at their original retail prices. In this instance, the application of the markup percentage will reduce the retail inventory to cost rather than to a lower market value:

	Cost		Retail	Markup Per Cent
Opening inventory	$ 6,000		$10,000	
Purchases	24,000		40,000	
Total merchandise handled	30,000		50,000	40
Sales		$40,000		
Markdowns and other reductions		1,000		
Total deductions			41,000	
Closing inventory	5,400		9,000	

If the markdown goods have all moved out in the $40,000 sales, the $9,000 left in stock represents the original retail of the closing inventory. Since it was marked up 40 per cent originally, the original cost is $5,400. This is the proper inventory valuation, since there has been no depreciation upon it.

Were the goods marked down $1,000 not sold, the original retail of the closing inventory would have been $10,000 and the actual cost $6,000. In this case, the closing inventory of $5,400 at cost reflects a loss of $600 because of the $1,000 taken in markdowns.

Cost value on a rising market. When wholesale prices are rising, it is the accepted principle that inventories are valued at cost rather than at the higher market. By its treatment of additional markups, the retail method automatically achieves this result. Rising prices are reflected in additional markups, and the markup is increased. The derived cost inventory is therefore prevented from rising in response to the rising retail inventory.

For example, after goods costing $30,000 have been retailed at $50,000 and placed in stock, retail prices may be increased in an aggregate of $5,000, or 10 per cent. If one fifth of the stock is left in the closing retail inventory, it would be valued at $11,000 retail rather than at the original value of $10,000; but the cost inventory would remain at $6,000 as follows:

	Cost	Retail	Markup Per Cent
Opening inventory	$ 6,000	$10,000	
Purchases	24,000	40,000	

	Cost	Retail	Markup Per Cent
Additional markups		5,000	
Total merchandise handled	$30,000	$55,000	45.45
Closing retail inventory		11,000	
Derived cost inventory (54.55 per cent of $11,000)	6,000		
Closing retail inventory at original retail prices		10,000	
Original cost of closing inventory (60 per cent of $10,000)	6,000		

Were additional markups to be added *after* the initial markup is computed, the markup would be smaller and the closing cost inventory larger than original cost. Such incorrect handling of additional markups would result in valuing the stock at market, even when cost is lower; this is contrary to accepted theory.

Advantages of the Retail Method of Inventory

1. Simplifies and makes more accurate the taking of physical inventory.
2. Provides a perpetual inventory figure.
    a. Useful in merchandise control for planning purchases and obtaining desired turnover.
    b. Allows the determination of shortages.
    c. Allows profit calculation between inventory dates.
    d. Determines the stock on hand for insurance purposes in connection with fire and similar losses.
3. Automatically includes transportation in closing inventory.
4. Evaluates the cost inventory scientifically on a basis of "cost or market, whichever is lower."

Limitations of the Retail Method

Additional records are necessary. Under the cost method of inventory, it is not customary to record retail prices on invoices nor to insist that all price changes be reported to the office. For the retail method, however, it is not only essential that all retail prices and changes in them be reported but also that a careful distinction be drawn between price changes that affect the total merchandise handled, and thus the markup percentage, and those that do not. The extra record-keeping increases expenses somewhat and demands careful training and supervision. The existing personnel to handle the detailed records may not be available and buyers who have been free to price and re-price at will, without reporting, may object to the restrictions placed on their merchandising activity.

Danger of manipulation. Where there is inadequate supervision, the price entries may be manipulated so as to give erroneous cost prices. One example of such manipulation appeared in the last chapter on page 258 and further examples are in Appendix B. The most common type of manipulation is briefly explained here:

This is simply to defer taking markdowns that should have been taken before the end of an accounting period. The retail inventory can depreciate the cost value only if the retail value has been reduced. For example, if for a season there is a markup of 40 per cent, and the closing inventory, at retail prices at which the goods can be reasonably expected to sell, is $10,000, the correct cost value is $6,000. But if the buyer leaves goods in stock at original retail prices at which they are no longer readily salable, his closing inventory might be $11,000 and his alleged cost value 60 per cent of that, or $6,600. Thus, by failing to take $1,000 in markdowns that should have been taken, the cost inventory is overstated $600; the profits are overstated by the same amount. Therefore, great care must be exercised by management to see that buyers take markdowns promptly, keeping their retail prices at points at which sales can be reasonably anticipated. One device to achieve this end is the "reserve for future markdowns" explained in Appendix B.

Departmentizing necessary. The retail method of inventory is essentially a departmental system of analysis and control. It is not to be applied to the entire stock of a store unless a single class of goods is carried. Thus, a store that would introduce the retail method must usually set up distinct departments, keeping separate sales records for each. While such departmental records are helpful, the merchant who has not de-

Effect on Profits of Failure to Take Markdowns

A merchant takes a 42 per cent markup on coats. He had on hand at inventory time $20,000 worth of goods at retail. Although most of the goods were worth their marked retail prices, the stock included 150 coats at $19.50 each that were not selling and should have been reduced to $14.50 to move them. His accountant figured that by failing to take the necessary markdowns, he was overstating his profits:

$19.50 − $14.50 = $5.00 markdown needed per coat.
$5.00 × 150 = $750.00 total markdown needed.
$20,000 − $750 = $19,250, the correct retail value of the inventory.
$19,250 × 58% = $11,165, the correct present cost value.
$20,000 × 58% = $11,600, the original cost, which the goods are no longer worth.
$11,600 − $11,165 = $435, the extent to which both closing cost inventory and profits are overstated.

A short-cut method to arrive at the same conclusion is to multiply the $750 markdown needed by the complement of the markup per cent:

$750 × (1.00 − .42) = $750 × .58 = $435, the depreciation that should have been recognized.

partmentized thus far may regard the necessity an obstacle to the introduction of the retail method.

High and low markup may distort the cost inventory. Unless the lines to which the retail method is applied are carefully segregated, there is danger of serious distortion. As indicated, the retail method is designed to determine cost values of specific lines of goods as usually found in one department or one group of merchandise and not of composite assortments of many lines. It may not be applied in bulk to the total retail inventory of a department store, but it may be applied to most of the selling departments individually. A specialty store carrying women's dresses or one other narrow line could apply the method to the entire retail stock, but an apparel shop carrying dresses, coats, hosiery, millinery, and so forth should apply the method to each merchandise group separately. The chief reason for this requirement is that markups and markdowns vary considerably among different lines of goods. There is little assurance that the goods in the closing inventory represent a fair sample of the total merchandise handled; the markup may be quite different. Again, the markdown percentage on a composite assortment would not reveal the reasonableness of the amount of the markdowns until the relative sales of different types of merchandise and the relative markdowns were determined.

Danger of high and low markups. The danger of including in the same computation two lines of merchandise in which markups vary considerably is apparent from the following example in which millinery and neckwear are carried in the same department:

	Cost	*Retail*		*Markup Per Cent*
Inventory and purchases—millinery ..	$ 55,000		$100,000	45
Inventory and purchases—neckwear ..	65,000		100,000	35
Total merchandise handled	$120,000		$200,000	40
Sales—millinery		$90,000		
Sales—neckwear		40,000		
Total deductions (no markdowns)			130,000	
Closing retail inventory			70,000	
Closing cost inventory ($70,000 × .60) .	42,000			

Were the markup percentages to be applied to the two lines separately, a larger total closing cost inventory would result, as follows:

	Cost	*Retail*	*Markup Per Cent*
Merchandise handled—millinery	$55,000	$100,000	45
Sales—millinery		90,000	
Closing inventory ($10,000 × .55)	5,500	10,000	
Merchandise handled——neckwear ...	$65,000	$100,000	35
Sales—neckwear		40,000	
Closing inventory ($60,000 × .65)	39,000	60,000	
Sum of the closing inventories	44,500		

Combining of the two stocks has undervalued the closing inventory by $2,500.

The difficulty here is that the high markup millinery has sold much more rapidly than the low markup neckwear. The closing inventory is largely composed of neckwear with a low markup and high cost; but the retail is reduced to cost by an average markup derived partly from millinery purchases that have largely been sold.

Had the high and low markup goods sold in proportion to their representation in the total merchandise handled at retail, the closing cost inventory would have been correctly evaluated in spite of the differences in markup, as the following comparisons show:

RETAIL METHOD APPLIED TO TOTAL STOCK

	Cost	*Retail*	*Markup Per Cent*
Inventory and purchases—millinery ..	$ 55,000	$100,000	45
Inventory and purchases—neckwear ..	65,000	100,000	35
Total merchandise handled	$120,000	$200,000	40
Sales—millinery		60,000	
Sales—neckwear		60,000	
Closing inventory ($80,000 × .60)	48,000	80,000	

EACH CLASSIFICATION OF STOCK VALUED INDEPENDENTLY

	Cost	*Retail*	*Markup Per Cent*
Inventory and purchases—millinery ..	$55,000	$100,000	45
Sales—millinery		60,000	
Closing inventory ($40,000 × .55)	22,000	40,000	
Inventory and purchases—neckwear ..	65,000	100,000	35
Sales—neckwear		60,000	
Closing inventory ($40,000 × .65)	26,000	40,000	
Sum of both closing inventories	48,000		

The combined closing inventory is correct because 50 per cent of the closing stock represents millinery and 50 per cent neckwear and these were the percentages in which the goods were bought.

There is no assurance that different lines carrying different markups will be represented in closing stocks in proportion to their representation in total merchandise handled. Turnovers of stock vary. Relatively less of the fast turning goods may be left than of the slow turning goods. It may be concluded, then, that the retail method will give incorrect inventory valuations when high and low markup lines are combined and where the turnover on the lines differs materially.

The desirable procedure is so to departmentize a store that the different classes of goods in each department will have approximately the same markup percentage or the same turnover rate. It is also desirable that the rate of markdowns be fairly uniform so that the markdown percentage on the entire sales may be correctly interpreted. In practice, however, it is difficult to classify merchandise into departments on a basis of these factors.

Different markups in the same department. It often happens that even in the case of a single line of goods, such as millinery, the markup and turnover on different items vary widely. Here there is some danger that the cost inventory will be wrongly evaluated. As the illustration of the millinery and neckwear stocks shows, when high markup goods turn more rapidly than low markup goods, the closing cost inventory is understated; and conversely where the low markup goods turn more rapidly, the closing cost inventory is overstated. This danger is one of the chief disadvantages of the retail method.

In a single department, such inequality in turnover is most likely to occur when considerable merchandise is purchased for special sale and given a very low markup. These special purchases are often entirely sold out before the end of the period and are not represented in the closing inventory. When charged into stock, they decrease the markup to be used in reducing the closing inventory to cost. Thus the closing inventory is overstated. The following illustration will make the matter clear:

	Cost		Retail	Markup Per Cent
Opening inventory—regular stock ...	$ 6,000		$10,000	40
Purchases—regular stock	18,000		30,000	40
Purchases—sale merchandise	9,000		10,000	10
Total merchandise handled	$33,000		$50,000	34
Sales—regular stock		$30,000		
Sales—special sale merchandise		10,000		
Total sales			$40,000	
Closing inventory—all regular stock ($10,000 × .66)	6,600		10,000	
True cost of closing inventory ($10,000 × .60)	6,000			

The low markup goods reduce the markup on total merchandise handled from 40 per cent to 34 per cent, but none of the low markup goods are left at the end of the period. The closing retail inventory of $10,000 is composed only of goods carrying a regular 40 per cent markup. The original cost of these goods is $6,000. Certainly the goods have not increased $600 in value merely because they have been in stock for some time.[1]

Solution for high and low markups. A suggestion for avoiding these errors in inventory valuation without discarding the retail method is that the special low markup goods be treated as a separate department or classification.

This proposal requires that sales and markdown records of special purchases be kept distinct from other sales and markdowns and that inventories and purchases be segregated. In one department, only regular merchandise will be carried with a comparatively high markup, and in the other, only specials with a low markup. This plan would result in a homogeneous closing inventory from the standpoint of markup and would doubtless give a properly evaluated cost inventory. The objection to this plan is the extra expense of making two departments where one existed and the difficulty of segregating low markup sales and stock from regular sales and stock.[2]

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[1] When such special sale merchandise is handled in considerable quantities, the probabilities are that the specials will turn more rapidly and have less relative representation in the closing inventory than does the regular stock. Under special circumstances, however, the higher markup goods may be sold and the specials remain in stock. This might occur when low markup goods are held

There is a nearly conclusive answer that may be given to the

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in reserve for future selling but are reduced to cost by a higher markup on regular purchases. For example:

	Cost	*Retail*	*Markup Per Cent*
Inventory, February 1	$ 6,000	$10,000	40
Purchases, February 1 to December 31	18,000	30,000	40
Purchases, January next for a special sale in February	9,000	10,000	10
Total merchandise handled	33,000	50,000	34
Sales for year (all regular goods, since specials do not go on sale till next month		40,000	
Inventory, January 31	6,600	10,000	
Actual cost of special purchases that are in stock	9,000		
Understatement	2,400		

According to the retail method, the goods that have just been purchased for $9,000 have depreciated in value to $6,600, which is obviously not the case.

[2] Another proposal to handle high and low markups is to put the goods into stock at a higher price than actually offered to the public and to take a markdown immediately. This may accomplish the result of a correct closing inventory, as the following example shows:

	Cost	*Retail*		*Markup Per Cent*
Opening inventory	$ 6,000		$10,000	40
Purchases of regular goods	18,000		30,000	40
Purchases of sale merchandise (for sale at $10,000 but put into stock at $15,000 to provide a normal markup of 40 per cent)	9,000		15,000	40
Total merchandise handled	$33,000		$55,000	40
Sales of regular stock		30,000		
Sales of special merchandise (none left in closing inventory)		10,000		
Markdowns on specials		5,000		
Total deductions			45,000	
Closing inventory, by retail method	6,000		10,000	
Actual cost of closing inventory	6,000			

problem of errors in inventory valuation caused by one class of goods selling faster than another. This is that the errors in opening and closing inventories will compensate for one another and give an approximately correct profit figure. Even though low markup goods probably do sell faster than high markup goods and closing inventories are probably overstated some-

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Since there have been no markdowns on the stock left in the closing inventory, the derived cost should correspond to actual cost. Under the above treatment of the special purchases, this is the case.

An objection to this procedure is that current government regulations specify that merchandise must be offered for sale at the prices at which it is carried on the records. The immediate taking of markdowns to offset a fictitious markup is not allowable.

Other objections to offsetting a normal markup with an immediate markdown are:

1. Authorization of this procedure might open the door to the vicious practice of marking most invoices at higher prices than those at which the goods are offered to the public, with the express purpose of establishing a high markup so as to understate the closing inventory. The danger of this practice is discussed in Appendix B.

2. There is no assurance also that the low markup specials will all be sold out before closing inventory is computed. If this merchandise is fully represented in closing stock, the practice of overstating markup would result in understating the cost inventory. For example, four fifths of the high markup and four fifths of the low markup goods may be sold, as follows:

	Cost		*Retail*	*Markup Per Cent*
Opening inventory	$ 6,000		$10,000	40
Purchases of regular goods	18,000		30,000	40
Purchases of sale goods	9,000		15,000	40
Total	33,000		$55,000	40
Sales of regular goods		$32,000		
Sales of specials		8,000		
Markdowns on specials		5,000		
Closing inventory, by retail method	6,000		10,000	

COMPOSITION OF CLOSING INVENTORY

	Cost	*Retail*	*Markup Per Cent*
Regular goods	$4,800	$8,000	40
Specials	1,800	2,000	10
True cost of closing inventory	6,600		

It may be concluded, then, that the special procedure suggested will give correct results only when the low markup goods handled have little or no representation in the closing inventory.

what, the opening inventory will also be overstated if a similar situation existed the year before. Uniformity in overstating inventories will yield approximately correct profit figures. So long as a department follows a uniform policy of carrying some fast-selling low markup goods, the retail method will reflect profits accurately without adjustments. Errors will be encountered only when merchandising policies are changed.

The retail method not applicable to all lines. Another limitation of the retail method of inventory is that it is not suited to all types of goods and services offered for sale. It is applicable to goods that are bought and sold in the same units and for which markdowns can readily be taken. But these conditions frequently do not exist. In "cost" departments where labor enters into the cost of goods sold, such as a restaurant or a made-to-measure suit department, the method cannot be used,

Limitations of the Retail Method of Inventory

1. Additional records are required.
    a. All invoices must be marked with the retail price of each item.
    b. All price changes must be recorded.
2. Unless there is careful supervision, the system may be manipulated.
    a. Fictitious markups may overvaluate or undervaluate cost inventories.
    b. Fictitious markdowns may undervaluate cost inventories.
    c. Deferred markdowns may overvaluate cost inventories.
3. The store must be departmentized, unless only a narrow line is carried.
4. Where goods at different markups are handled in the department and the high and low markup goods are not sold in the same proportion as that in which they were bought, the closing cost inventory may be either overstated or understated—generally it is overstated.
5. The retail method is not adapted to all lines of goods.
6. A taxable profit results when retail method is first introduced.

since the inventory is largely materials and work in process rather than finished goods that have been bought ready to sell. Again, the method is not suitable for a fresh produce department where there is considerable spoilage. It is impracticable to report this spoilage as markdowns.

A taxable profit at transition to the retail method. When a store switches from cost to retail method, the "cost" as derived from the retail is usually somewhat larger [3] than the "cost" as determined under the cost method; and under present regulations of the Bureau of Internal Revenue, this difference is taxable. Thus, at transition the store shows an extra taxable profit. This difficulty is explained more fully in Appendix B, dealing with the introduction of the method.

REVIEW QUESTIONS

1. How does the retail method of inventory simplify the taking of physical inventory?
2. Why is it fair to attribute to the retail method of inventory the advantages of a perpetual inventory?
3. In connection with the retail method, show that it is unnecessary to make a separate calculation of the transportation charges in the closing inventory.
4. If a merchant takes a markdown of $200 in a merchandise line with an initial markup of 35 per cent, how much is the cost value of his inventory reduced, under the retail method? Explain the concept of *cost of markdowns.*
5. Why is it wrong to subtract markdowns from the retail value of the total merchandise handled before calculating the initial markup percentage?
6. What four requirements does the Bureau of Internal Revenue set up for taxpayers who use the retail method?
7. Is it necessary to mark down all of a quantity of identical merchandise at the same time?
8. Explain why markdowns affect the inventory valuation only if the goods marked down are still in stock.

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[3] One authority puts this difference at about 15 per cent. This is because low markup goods tend to sell more rapidly than high priced goods, as explained above.

9. If the retail method is handled properly, does it provide *cost* or *market* value on a rising market? What is the rule for accomplishing this?
10. What are the four major advantages of the retail method?
11. What records does the retail method require that are not required by the cost method?
12. Why is the failure to take markdowns promptly a form of manipulation?
13. When both high markup and low markup merchandise are carried in the same department, how may the use of the retail method lead to a distortion of the cost value?
14. When low markup merchandise is bought for special-sale purposes, does including it in the department's records tend to over-state or to under-state the closing inventory? Explain why.
15. What solutions have been suggested to avoid the distortion that may be caused by high and low markups?
16. What are the objections to putting sale goods into stock at a regular markup and immediately taking a markdown to sales price?
17. Why is the problem of high and low markups less important over the long run than over the short run?
18. Why is the retail method not applicable to all merchandise lines?
19. Why may switching to the retail method from the cost method give a taxable profit?
20. List six limitations of the retail method.
21. Would you recommend the retail method of inventory to a butcher? Why? To the proprietor of a restaurant? Why?

16

How to Measure Stock-Turn

Every merchant is interested in the amount of annual sales he can realize on his investment in merchandise. If he can increase his volume of sales and subsequent profits without carrying larger stocks, it is clear that his investment will be more remunerative. If he can realize former sales on a smaller investment in stocks, he is again better off, for the capital freed from sluggish inventories can be put to work somewhere else earning profit or interest.

Stock-turn. To understand the significance of the relationship between sales and stocks, it is first necessary to know exactly what stock-turn means and how it is computed. Stock-turn may be defined as the sales during a period divided by the average stock. The sales and stock figures may be expressed either in dollars or in units. If in dollars, either retail or cost values may be used. The retail basis is the usual one:

$$\frac{\text{Net sales \$10,000}}{\text{Average retail stock \$2,000}} = 5, \text{ the stock-turn at retail}$$

If stock-turn is computed at cost, the gross cost of merchandise sold is divided by the average cost stock. This plan results in a slightly higher turnover than stock-turn at retail because the markup on sales is generally less than the markup on stock. The difference between cost and retail stock represents the initial or attempted markup. The difference between cost of sales and sales is the maintained or realized markup, after markdowns and after shortage losses have been included in the cost of merchandise sold. For example, in the above illustration the maintained markup may be only 35 per cent when the markup or initial markup is 40 per cent. The turnover at cost could then be computed as follows:

$$\frac{\$10{,}000 \times .65}{\$2{,}000 \times .60} = \frac{6{,}500}{1{,}200} = 5.4.$$

In order to insure comparability of figures, it is desirable to use one base or the other as the standard of practice. The retail basis is to be preferred for two reasons: First, stores operating under the retail method of inventory have information continually available in regard to sales and retail stocks, whereas the corresponding cost figures require a computation that is entered into only when profits are computed. Second, the retail basis gives the smaller or more conservative figure.

Stock turnover may be computed in units or pieces of merchandise also. Thus, if 1,000 hats are sold during a period with an average assortment on hand of 100 hats, the turnover for the period is 10. See the box on page 282.

For comparative purposes, it is desirable that the period of time be standard. This is generally one year, and the term, *rate of stock turn,* should be limited to references to this period. Where monthly turnovers are computed, the *rate* may be determined by multiplying by 12. For example, the sales in August may be $3,000 with average retail stock of $6,000. The monthly turnover is one half, and the rate of turnover is 6 (½ × 12). Cumulative turnover figures may be determined. For example, September sales may be $4,000, and average retail stock for August and September combined, $7,000. The two-month cumulative turnover is

$$\frac{\$3{,}000 + \$4{,}000}{\$7{,}000} = \frac{\$7{,}000}{\$7{,}000} = 1.$$

The annual rate is again 6. On page 300 are turnover ratios for important departments in department stores.

Three Ways to Figure Stock-Turn

In a rug department, sales were $80,000 during the year. *This represented 1,000 rugs.* The average stock was $20,000 at retail and $12,000 at cost. This represented 225 rugs. The controller reported that the cost of goods sold was $50,000.00 for the year. The buyer then computed his stock-turn in three ways:

A. Sales ÷ Average retail stock
$80,000 ÷ $20,000 = 4

B. Cost of goods sold ÷ Average cost stock
$50,000 ÷ $12,000 = 4⅙

C. Unit sales ÷ Average unit stock
1000 ÷ 225 = 4.4

Seasonal stock-turn. It is to be observed that the actual stock-turn achieved in a month tends to vary considerably from one-twelfth of the annual turnover. For example, a store with six stock-turns may have net sales of $120,000 a year; its average stock is $20,000 at retail; its average monthly sales are $10,000; and its average monthly stock-turn is one-half. In December, it may sell $15,000, 50 per cent more than average, but it will probably not have to increase its stock assortment 50 per cent to provide for the Christmas rush; a 25 per cent increase from $20,000 to $25,000 may be sufficient. Thus, December stock-turn will be $15,000 divided by $25,000 or three-fifths, a figure higher than the average of one-half.

Likewise, in July, sales may fall from an average of $10,000 a month to $5,000 but in order to maintain basic assortments of merchandise a 25 per cent reduction in stock from $20,000 to $15,000 may be all that is desirable. The July stock-turn, then, is $5,000 divided by $15,000 or one-third; this is considerably less than the average stock-turn of one-half.

Since most merchants have to maintain basic assortments throughout the year, it follows that stock-turn is generally higher in the months of greatest seasonal sales demand and less than average in the dull months.

Applying the turnover ratio. Since stock turnover, by definition, is sales divided by average stock, it follows that sales and average stock may be expressed in terms of the turnover: Let T = turnover; S = sales; and A = average stock:

Since $T = \frac{S}{A}$, $S = T \times A$ and $A = \frac{S}{T}$

These relationships are helpful in planning. For example, a new store may have $3,000 to invest in merchandise that can be retailed for $5,000. If the usual rate of turnover in this line is 6, a reasonable sales expectancy for the year will be six times $5,000 or $30,000.

Again, a going store or department may forecast sales for the coming year of $50,000 and the turnover standard may be 5. Since the average retail stock may be found by dividing the sales by the turnover, a stock of $10,000 could be planned, as a guide for purchase control.

Triple Relationships

$$\text{Stock-turn} = \frac{\text{Sales}}{\text{Average stock}}$$

$$\text{Sales} = \text{Stock-turn} \times \text{Average stock}$$

$$\text{Average stock} = \frac{\text{Sales}}{\text{Stock-turn}}$$

Finding Average Stocks

The chief problem in computing stock-turn is to determine the *average* stock carried during the period.

Chief methods. There are four commonly used methods:

1. The stocks at the first and end of the year are averaged. For example, if the stock on February 1, the beginning of the fiscal year, is $2,100 at retail, and on February 1, the end of the fiscal year, it is $1,900, the average is $2,000. The objection to this practice is that the stock at one season is not an accurate reflection of the average of the stock carried throughout the year. Stocks on February 1 are generally 15 to 25 per cent

below the true yearly average because the winter merchandise has been largely disposed of through clearance sales and the spring goods have not yet been added to the stock. The derived turnover is, accordingly, too high. This method cannot be recommended for control purposes within a store, although it may have to be used by an outside student who has only the annual stock figures available.

2. The stocks at the first, middle, and end of the year are averaged by dividing the sum of these figures by three. For example, stock on February 1 may be $2,100; on August 1, $2,150, and on February 1 next, $1,900. The average is $2,050. This plan is only a little better than method 1 above because stocks at the middle of the year are generally at a very low point, too. Summer merchandise is cleared in July, and few fall goods have been stocked. The heavy stocks carried during the important spring and fall seasons have been wholly disregarded in the average, which is consequently too small—and the resultant turnover too large.

3. The stocks on the first of each month are averaged by dividing the sum of the stock figures by their number. If the fiscal year is from February 1 of one year to February 1 of the next, thirteen stock figures are required, for the twelfth represents January 1; an average based upon twelve figures would disregard the stock carried at the end of the twelfth month. Here is an example:

	Stock
February 1	$10,000
March 1	12,000
April 1	14,000
May 1	14,000
June 1	13,000
July 1	9,000
August 1	8,000
September 1	10,000
October 1	13,000
November 1	14,000
December 1	16,000
January 1	13,000
January 31	11,000
Total	$157,000

$157,000 ÷ 13 = $12,077, the average stock.

This plan is the one most commonly used in stores operating under the retail method of inventory. It is open to the objection that heavy or low stocks carried during the month, but not at hand at the beginning or end, have no influence on the computed turnover figure. Some buyers tend to allow their stocks to get low at the end of each month and to bring in large purchases early in each succeeding month. If this is the practice, the stock-turn figures on a basis of monthly stocks will be higher than the facts warrant.

A fourth plan for averaging stocks is to use weekly stock figures. This requires fifty-three figures in order to include the end of the final week in the year. These may be averaged as in plan 3 by summating the fifty-three figures and dividing the fifty-three. This method makes allowance for stock fluctuations during a month. The use of weekly figures gives a highly accurate average but is cumbersome to compute. A daily average is possible but not often practicable. In practice, the third plan is most common in the department-store field. Since uniformity of calculation is probably more important than statistical accuracy, its use may be recommended.[1]

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[1] Some experts recommend a refinement in plans 3 and 4 in which *average* stocks for each month or week are averaged, rather than beginning stocks. Thus, in connection with plan 3, an average stock for each of the twelve months is determined by dividing the sum of the stocks at the beginning and end of each month by two. The twelve monthly averages are then averaged by adding them together and dividing by twelve. For example, the stock figures, used in illustrating plan 3, may be averaged as follows:

	Average Stock for Each Month
February	$11,000
March	13,000
April	14,000
May	13,500
June	11,000
July	8,500
August	9,000
September	11,500
October	13,500
November	15,000
December	14,500
January	12,000
Total	$146,500

Ways to Find Average Stocks

1. Total the physical inventory figures for beginning and end of the year and divide by 2.
2. Total the physical inventory figures for beginning, middle and end of the year and divide by 3.
3. Total the 13 monthly inventory figures (3 physical and 10 book) and divide by 13.

    Or average opening and closing inventory figures and add this to the 11 intermediate monthly figures and divide by 12.
4. Total the 53 weekly inventory figures (3 physical and 50 book) and divide by 53.

    Or average opening and closing inventory figures and add this to the 51 intermediate weekly figures and divide by 52.

What stock-turn is not. While stock-turn is the ratio of sales to average stock, it is not, as has often been stated, the number of times a physical stock of goods is bought and sold during a period. For example, a merchant may purchase a staple article

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$146,500 ÷ 12 = $12,208. Note that this is $131 larger than the average obtained from the same data by plan 3.

Statistically, this plan is the more accurate. Plan 3 gives too much weight to the stocks on hand at the first and end of the year. Technically, the average of the opening and closing inventories should have the same weight as any of the other stock figures. Plans 3 and 4 give this average double weight.

Refinement of both plans may be simplified by averaging opening and closing stocks and adding to the sum of all the other stock figures. In the example, the February 1 stock is $10,000, and the January 31 (next) stock is $11,000. The average is $10,500. The sum of the remaining eleven stock figures, March 1 to January 1 inclusive, is $136,000. $10,500 + $136,000 = $146,500, the identical figure obtained by averaging the average stocks for each month. The computation of stock-turn under this method may be stated as follows:

$$\text{Stock-turn} \quad \frac{\text{Sales for the year}}{[\frac{1}{2}\,(\text{Opening stock} + \text{Closing stock}) + \text{Sum of 11 intermediate monthly stocks.}] \div 12}$$

If weekly, rather than monthly stock data is to be averaged, the above equation may be modified as follows:

$$\text{Stock-turn} \quad \frac{\text{Sales for the year}}{[\frac{1}{2}\,(\text{Opening stock} + \text{Closing stock}) + \text{Sum of 51 intermediate weekly stocks.}] \div 52}$$

in units of three months' supply and not restock until the old stock is completely sold out. During the year, four purchases are made and four lots are sold, but the stock-turn is not 4. The *average* stock is about a month and a half's supply since three months' supply is on hand only at the start of each quarter and none is on hand at the end of each quarter. Thus, the average stock is about half the amount received every quarter.[2] And thus, the turnover would approach 8.

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[2] This may be demonstrated by assuming sales of 100 a month and by tracing the movement over twelve months.

	On Hand	
February 1		300
March 1	200	
April 1	100	
May 1	300	
June 1	200	
July 1	100	
August 1	300	
September 1	200	
October 1	100	
November 1	300	
December 1	200	
January 1	100	
January 31		300

Total .... 2,100 + 300 = 2,400,

2,400 ÷ 12 = 200, the average stock (according to alternative method 4),

$$\frac{1{,}200}{200} = 6, \text{ the turnover.}$$

If weekly or daily stock figures were used, the average stock would approach $150, for the stock at the end of April, July, October, and January approaches zero before the new stock of 300 arrives on the first of each of the next months $\left(\frac{300 + 200 + 100}{4} = 150\right)$. If the new purchases could be timed to arrive just as the last lot was sold out, the turnover would be 8 (1,200 ÷ 150).

In practice, few stocks are allowed to approach zero before restocking. Accordingly, the turnover varies not only with the frequency of repurchase but also with the minimum stock carried. For example, a merchant may sell 1,000 items a month, and fill in 1,000 every month when his stock gets down to 1,500. His stock thus fluctuates between 1,500 and 2,500, and averages 2,000. His monthly turnover is 1,000 ÷ 2,000, or ½, an annual rate of 6. Another merchant may also sell 1,000 items a month and fill in every month when his stock gets down to 3,500. His average stock is 4,000, and the annual turnover only 3.

Averaging Stock-turn

After the stock turnover has been computed for the various departments of a store or for the various subdivisions within a department, it may be desirable, for comparison purposes, to compute the over-all turnover. This could be done, of course, by using the totals of the sales and stock figures involved but it may also be calculated from the turnover figures themselves, provided the relative sales volume in each department is known. In the following example, the per cent of sales made by each department is indicated. Then, by letting $100 equal total sales:

Department	*Stock-turn*	*Per Cent of Sales*	*Sales in Dollars*	*Average Stock at Retail*
A	10	50%	$50	$5
B	7	35	35	5
C	5	15	15	3
Total ..		100%	$100	$13

$100 ÷ $13 = 7.7, the aggregate turnover for the store.

The sales must be divided by the turnovers to give the stocks. The sum of these stocks, divided into the total sales of $100 gives the aggregate turnover.[3]

Planning stock-turn. The averaging method just described may prove useful in deciding what turnover to aim at in one department or subdivision, when an over-all goal has been established. Thus, in the above case, an aggregate turnover of 8 may be set. It may also be felt that no increase in the turnover in either A or B is possible without sacrificing sales, but that the turn in C might be increased somewhat. The averaging method may be used to determine what turnover in C will yield the aggregate desired:

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[3] It should be noted that stock-turn figures must not be weighted by sales to derive an average, but rather by average stocks.

Department	*Stock-turn*	*Per Cent of Sales*	*Sales in Dollars*	*Average Stock at Retail*
A	10	50%	$50	$5.00
B	7	35	35	5.00
C	?	15	15	(2.50)
Total ..	8	100%	$100	$12.50

$100 ÷ 8 = $12.50, the aggregate average stock to carry. Since a stock of $10.00 is required in A and B combined, there is only a stock of $2.50 left for C. With sales of $15.00, the turnover must be 6. Whether the turnover in C can be increased from 5 to 6 cannot be determined by mathematics. It would be necessary to study the stock assortment carefully in order to see whether necessary assortments can be maintained at the lower level.[4]

Averaging Stock-turn

A merchant has two departments (A and B) and wants a stock-turn of 5 for his store as a whole. He does 70 per cent of his business in department A and 30 per cent in B. He is sure he can obtain only 4 turns in A. He calculates the turnover to aim at for B as follows by assuming total sales of $100:

Department	*Per Cent of Sales*	*Sales in Dollars*	*Stock-turn*	*Average Stock at Retail*
A.	70%	$70	4	$17.50
B.	30	30	?	(2.50)
Total	100%	$100	5	$20.00

$$\text{Turnover for B} = \frac{\$30.00}{\$2.50} = 12$$

Capital Turnover

The term capital turnover is generally used to designate the relationship between net sales at retail and average stock at cost. It differs from stock turnover in that the denominator is on a cost basis while the numerator is at retail. In stock-turn, both are at retail or both are at cost. For example, sales may be \$10,000, average stock at retail \$2,000, and average stock at cost \$1,200. The capital turn is \$10,000 ÷ \$1,200, or 8⅓, whereas the stock turnover is 5 (\$10,000 ÷ \$2,000). Capital turnover is always higher than stock-turn. Capital turnover is frequently used in financial circles, but retail merchants usually prefer to use the concept of stock-turn.[5] Capital turnover is a useful measure of efficiency in the hands of outside investigators,

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[4] It should be borne in mind that changing the stock investment in any one category may change the relative sales that can be achieved and require a new calculation of over-all turnover.

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[5] Since stock-turn and capital turnover vary because of the markup on average stock, a knowledge of capital turn and the initial markup allows the calculation of the stock-turn. For example, the capital turn may be 5 and the markup 40 per cent. If \$5 is regarded as the sales, the average stock at cost is \$1. If the markup is 40 per cent of retail, the average retail stock is \$1/.60 = \$1.67. \$5/1.67 = 3, the stock-turn. The relation may be expressed as an equation, computed as follows:

$$\frac{\text{Sales}}{\text{Average cost stock}} = \text{Capital turn and}$$

$$\frac{\text{Sales}}{\text{Average retail stock}} = \text{Stock-turn}$$

$$\text{Sales} = \text{Capital turn} \times \text{Average cost stock} = \text{Average retail stock} \times \text{Stock-turn.}$$

$$\therefore \text{ Stock-turn} = \frac{\text{Capital turn} \times \text{Average cost stock}}{\text{Average retail stock}}$$

$$\text{But } \frac{\text{Average cost stock}}{\text{Average retail stock}} = \text{Complement of markup.}$$

$$\therefore \text{ Stock-turn} = \text{Capital turn} \times \text{Complement of markup.}$$

In the example, stock-turn = 5 × .60 = 3.

Conversely, when stock-turn and markup are known, the capital turn may be found by *dividing* the stock-turn by the complement of the initial markup.

When the stock-turn and capital turns are both known, the initial markup may be determined by dividing the difference between the capital turn and the stock-turn by the capital turn. This relation is determined as follows:

$$\text{Stock-turn} = \text{Capital turn} \times \text{Complement of markup.}$$

$$\therefore \text{ Complement of markup} = \frac{\text{Stock-turn}}{\text{Capital turn.}}$$

$$\text{But Complement of markup} = 1.00 - \text{Markup.}$$

$$\therefore 1 - \text{M.U.} = \frac{\text{Stock-turn}}{\text{Capital turn,}} \text{ and M.U.} = 1 - \frac{\text{Stock-turn}}{\text{Capital turn}} = \frac{\text{Capital turn} - \text{Stock-turn.}}{\text{Capital turn.}}$$

however, who have sales and cost inventory figures available from published corporate statements but who do no have access to the retail stock figures or to the markup.

Stock-Sales Ratio

A third important relation between stock and sales is the stock-sales ratio.

Monthly ratios. There are two chief varieties: (1) the B.O.M. stock-sales ratio is the retail stock at the beginning divided by the sales for the month. For example, the retail stock on February 1 may be $10,000, and the sales for February, $5,000. The February stock-sales ratio (as of the first of the month) is 2. (2) The E.O.M. stock-sales ratio is the retail stock at the end-of-month divided by the sales for the month. If stock at the end of February is $15,000, the February stock-sales ratio (as of the end of the month) would be 3. Of the two, the first of the month ratio is the more useful, since there is a causal relation between beginning stocks and sales for a month. The stock of $10,000 on February 1 is on hand in order to make possible the February sales of $5,000. At the end of February, however, the stock of $15,000 has no direct relation to February sales, but is on hand to make March sales possible.

Stock-sales ratios differ from stock-turn in three ways: (1) numerators and denominators are reversed; (2) the period covered for a stock-sales ratio is commonly a month, while stock-turn can be for any period that proves useful, such as a month, season, or year; and (3) the stock figure in stock-sales ratio represents the stock at a specific time whereas in stock-turn the stock is the average maintained over a period of time. Accordingly, the stock-sales ratio cannot be defined as the reciprocal of the turnover ratio. In the above example, the stock-turn for February is

$$\frac{\$5{,}000}{\frac{1}{2}\,(\$10{,}000 + \$15{,}000)} = \frac{\$5{,}000}{\$12{,}500} = .4,$$

but the first of month stock-sales ratio is

$$\frac{\$10{,}000}{\$\ 5{,}000,} \text{ or } 2,$$

not

$$\frac{\$12{,}500}{\$\ 5{,}000,} \text{ or } 2.5.$$

Three Kinds of Turnover

1. Stock-turn.
    (a) At retail; Net sales ÷ Average retail stock.
    (b) At cost; Cost of sales ÷ Average cost stock.
    (c) In units; Unit sales ÷ Average stock in units.
2. Capital turnover: Net sales ÷ Average cost stock.
3. Stock-sales ratio:
    (a) B.O.M. stock-sales ratio;
        Stock at retail B.O.M. ÷ Sales for month.
    (b) E.O.M. stock-sales ratio;
        Stock at retail E.O.M. ÷ Sales for month.

It is evident that a reduction in stock in relation to sales decreases the stock-sales ratio. Thus, increased turnover is equivalent to a lower stock-sales ratio each month, and decreased turnover to a higher stock-sales ratio.

Comparing the stock-sales ratio with stock-turn. It is easy to convert stock-sales ratios into turnover, if ratios are available for both at the beginning and the end of a period: Thus, the B.O.M. stock-sales ratio for December may be 4 and the E.O.M. ratio for December 2:

$$\begin{array}{rl}
\text{Let December sales} = & \$1 \\
\text{December 1 stock } (\$1 \times 4) = & 4 \\
\text{December 31 stock } (\$1 \times 2) = & 2 \\
\hline
\text{Average stock} = & \$3 \\
\text{December stock-turn} = & \frac{1}{3} \\
\hline
\text{Average rate of turn } (\frac{1}{3} \times 12) = & 4
\end{array}$$

It will be noted from this example that the average of the beginning of the period and end of the period stock-sales ratios divided into 1 gives the stock-turn for the period.

When beginning of the month stock-sales ratios only are available, however, ratios for the first of two consecutive months may not be averaged to obtain the turnover for the first month, since the two are based on different amounts of sales. The sales for each of the months must be known. Thus:

B.O.M. stock-sales ratio, December = 4		Sales $100,000
B.O.M. stock-sales ratio, January = 5		Sales 60,000
December 1 stock (4 × 100,000)	400,000	
January 1 stock (5 × 60,000)	300,000	
Average December stock	350,000	

December turn: $\frac{100{,}000}{350{,}000} = 2.9$

Weekly ratios. For fast turning lines, stock-sales ratios are sometimes compiled from weekly rather than monthly data. Thus, stock on August 1 in a dress store may be 800 units and sales may be averaging 200 a week. The first-of-week stock-sales ratio, then, is 4. This signifies that there is a four weeks' supply on hand. In many ready-to-wear operations, it is the practice to plan ahead the number of weeks' supply to have on hand and to adjust purchases accordingly.

Advantages of stock-sales ratios. The chief advantage of the stock-sales ratio as compared with stock-turn is that it gives a basis for planning stocks that should be on hand at a given time rather than for planning average stocks. For example, comparison with past experience and with other stores may indicate that an annual turnover of 6 is desirable for a department with a sales volume of $60,000. The average retail stock to be carried, then, is $10,000, but this does not indicate how much stock should be on hand at any given time. From a control point of view, an average stock figure is of limited value; the important considerations are the stock at the beginning of the season, at the end of the season, and at specific dates during the season.

Such planning is facilitated by determining stock-sales ratios for each month or week based on both past experience and comparison with other stores of similar size and with a similar clientele. It may be found, for example, that a desirable B.O.M. stock-sales ratio in February for a certain hosiery department with an annual sales volume of $60,000 is 2. If February sales are planned at $4,000, the figure for the stock on the first of the month would be $8,000. In summary, then, the stock-sales ratio planned for a month or week may be multiplied by the planned sales for the period to find the stock for the first of the period.

There are a number of groups of stores that exchange information monthly in regard to the sales and stocks of each department. These figures make it possible to work out average ratios that can be used as a guide by each store to help correct an overstocked condition or to plan stocks next year, on a basis of planned monthly sales.

Averaging stock-sales ratios. For purposes of comparing and consolidating stock and sales relationships for stores as a group, some statisticians now average monthly stock-sales ratios covering a year. These are sometimes called "annual stock-sales ratios." They are computed by dividing average stocks by average monthly sales. Thus, a store may have annual sales of $120,000 and an average stock of $20,000. The average monthly sales, then, are $10,000 and the "annual stock-sales ratio" is $20,000 divided by $10,000 or 2. This indicates that the average stock carried is equal to the sales of two months, or two months' supply.

"Annual stock-sales ratios" may be computed from turnover ratios by dividing the rate of turnover into 12. In the above example, the turnover is $120,000 divided by $20,000 or 6, and 12 divided by 6 equals 2.

The Federal Reserve Board compiles monthly stock-sales ratios for department stores and some other types of stores and also reports the annual averages. These are published in the *Survey of Current Business.*

Importance of Rapid Stock-turn

The ability to realize a large volume of sales on a small investment in merchandise has received varying emphasis depending upon the stage of the business cycle. During a period of declining prices, large stocks have caused heavy markdowns, and high turnover has been regarded as of utmost importance. The merchant with the small, clean stock has suffered smaller losses. On a rising market, however, turnover receives less emphasis, for the stock often appreciates in value. An item bought in depression at $1.00 to sell at $1.50 may be in stock six months later when similar articles are selling in the wholesale market at $1.15. The old stock may thus prove salable at $1.75, yielding a handsome profit. In such cases, there is an element of speculation that is quite distinct from merchandising with its attempt to sell goods as quickly as possible at a price that will yield a profit over cost. The speculator, on the other hand, attempts to hold goods until their market value rises. While every merchant probably speculates at times, his major attention is devoted to merchandising.

Advantages of Rapid Stock-turn

1. Reduces markdowns.
2. Reduces certain expenses.
   a. Interest.
   b. Insurance.
   c. Merchandise taxes.
   d. Space charge.
3. Increases sales.
4. Increases return on the merchandise investment.

On a comparatively constant price level, rapid turnover is desirable although not the only major consideration. Speedy obsolescence owing to fashion change necessitates the prompt sale of merchandise if a profitable price is to be realized.

Fast stock-turn reduces markdowns. There seems to be a fairly close relationship between markdowns and turnover. For example, the Harvard[6] figures for department and specialty stores for 1947 show that stores with $1 to 2 million sales had markdowns of 5.3 per cent while stores with volume over $45 million had markdowns of 4.3 per cent. The turnover in the first group was 4.6 and in the second 5.5. The probabilities are that the lower markdowns in the large stores are primarily caused by the high stock-turn they enjoy. It will be noted in this instance that the small-store turnover was 16 per cent lower than in large stores and markdowns in large stores were 19 per cent lower than in small ones. Since markdowns are a function of time, there is logic in such a relationship. Thus, with 3 turns the stock is equal to a 4 months' supply; with 4 turns the stock is equal to a 3 months' supply. Obsolescence, if distributed equally over time, would be only ¾ as much in 3 months as in 4. Of course, all markdowns are not caused by obsolescence, some are caused by buying unsalable goods in the first place. Thus, the planner would hardly expect markdowns to be reduced in direct ratio to the increase in stock-turn.

Fast stock-turn reduces expense. A second advantage of rapid turnover is that it reduces certain items of expense. If funds have been borrowed and reinvested in stock, a reduction in the stock will make it possible to pay back the loan and to reduce interest expense.[7]

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[6] Operating Results of Department and Specialty Stores for 1947. Harvard Bureau of Business Research, Boston, 1948.

[7] It is the customary practice in department stores to include in expense a 4 per cent interest charge on the merchandise investment. A reduction in stock reduces the interest expense. For example, a store may have sales of $100,000 with 4 turns and a markup of 40 per cent. The average retail stock is $25,000, and the average cost stock $15,000. The interest expense on this stock is $600, 4 per cent of $15,000. An increase in turnover to 5 on a constant sales volume will reduce retail stock to $20,000, cost stock to $12,000, and interest expense to $480. The reduction of one fifth in stock reduces interest expense one fifth. The saving of $120 a year on a sales volume of $100,000 is only 12/100 of a per cent and of much less importance than the saving in potential markdowns. For example, with 4 turns the markdowns may have been 10 per cent, or $10,000. With the one-fifth reduction in average stock, it is possible that markdowns would be reduced by an amount greatly in excess of the interest savings.

Increased turnover also reduces insurance charges and taxes on the merchandise inventory. For example, an increase in turnover from 2 to 3 on a constant sales volume reduces the dollar stock one third and accordingly may reduce insurance, merchandise tax, and perhaps interest in the same proportion. Should the increased turnover come about from a sales increase of 50 per cent, these dollar expenses would remain the same but be reduced one third in percentage of sales.

In some cases, increased turnover may reduce storage or rent charges. This is particularly true in the case of selling departments in a departmentized store. If a simplification of the stock assortment allows the same volume to be realized on one fifth less stock, it may be possible to reduce the storage space considerably and possibly the selling space allotted to the department. The released space may be given to a department that is expanding in volume. For the store as a whole, there is no such direct relation between turnover and rent. A reduction in space needed to store goods does not directly reduce rents paid or, in the case of owned properties, interest on the investment in building. However, reduced stocks do allow business expansion without the necessity of building or leasing additional space; they allow liberated space to be devoted to profitable uses.

Fast stock-turn increases sales. Indirectly, improved turnover often increases sales volume. An effort to increase turnover is generally a part of a broader objective, the balancing of stocks to customer demand. More adequate assortments, coupled with the frequent receipt of new merchandise, create customer interest and engender enthusiasm of salespeople for their goods. Faster turnover means a faster flow of merchandise through the store, thus attracting customers who always find something new. On the other hand, a low turnover may impair sales volume, because customers find it hard to choose from a static assortment, with too many similar styles from which to select.

Fast stock-turn increases the return on the investment. Rapid stock-turn is also of advantage from the standpoint of profit return on both the investment in merchandise and the total investment (net worth). The cost value of merchandise in stores is often about one quarter of the sales and about one half the net worth. An annual department-store sales volume of $100,000 and profit of $5,000 may require ordinarily an investment of $50,000, of which $25,000 may represent merchandise. The return on the merchandise investment is 20 per cent and on the total investment 10 per cent. If, with careful management, a stock of $20,000 should prove adequate to maintain the sales volume of $100,000, the total investment could be limited to $45,000. The percentage of return on the merchandise investment would be increased to 25 per cent and on the total investment to 11.1 per cent. Since the $5,000 reduction in inventory is equivalent to a saving in interest of $200 (calculated at 4 per cent) and a further saving in insurance, taxes, and space charge of possibly another $200, profits might be increased to $5,400, or to 12 per cent on the $45,000 investment. Usually, however, capital liberated from inventories is not removed from the business but is put into more productive channels. It may be used in different ways: (1) to add new merchandise lines that will yield their own profit; (2) to advertise the store more effectively; or (3) to modernize the building. Thus, profits would be increased through larger sales, not through less investment in the enterprise.

It should not be concluded that the goal of every merchant is to increase the percentage return on his investment. If this were the case, some stores would remain small. The real goal is dollar profits. Business is often expanded with a decreasing ratio of profit to both sales and investment because dollar profits grow. A one-man store may make 50 per cent profit on a $2,000 investment, but this is only $1,000. Profits may be reinvested until the merchant's capital is $50,000 even though the profit return on capital falls to 10 per cent or less. But at 10 per cent the dollar profits are $5,000 and the merchant is netting 5 times as much as he did before.

How to Calculate Return on Merchandise Investment

Given: Sales \$10,000; Stock turnover 5; Markup 40%; Profit 5 per cent of sales.

Profit in dollars: 5 per cent of \$10,000 = \$500

$$\text{Average retail stock: } \frac{\$10{,}000}{5} = \$2{,}000$$

$$\text{Average cost stock: } \$2{,}000 \times .60 = \$1{,}200$$

$$\text{Profit on cost stock: } \frac{\$500}{\$1{,}200} = 42.2\tfrac{2}{3}\%$$

Table V on page 300 indicates the turnover in department stores over a twenty year period and also the net profit before Federal taxes as a per cent of sales and also as a per cent of net worth, that is, of the owners' equity in the business. It is interesting to note that the larger stores generally have higher stock-turns than small ones, and that stock-turn in 1948 was generally higher than in the earlier years reported.[8]

The efficiency index. Net profit expressed as a return on the merchandise investment (cost of average inventory), as distinct from the return on net sales, is sometimes called the *efficiency index.* It is one measure of the efficiency with which a merchant manipulates the store's capital allotted for investment in stock. Thus, with sales of \$100,000, with profits of \$5,000 and with an average merchandise investment of \$25,000 at cost, the efficiency index is $\frac{\$5{,}000}{\$25{,}000}$, or 20 per cent. This index may also be obtained by multiplying the capital turnover by the per cent of profit on sales:

$$\text{Efficiency index} = \text{Capital turnover} \times \text{Profit per cent.}$$

With sales of \$100,000 and average merchandise investment of \$25,000, the capital turnover is 4; and profits of \$5,000 are 5 per cent of sales. Then,

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[8] Beginning with 1939, the average department store turnover has varied from a low of 3.55 in 1942 to a high of 4.85 in 1947.

Table V

STOCK-TURN AND NET PROFIT IN 1929, 1936, AND 1948[a]

Stores	*Stock-turn Based on Beginning and Ending Inventories*			*Net Profit*[b] *Per Cent of Sales*			*Net Profit*[b] *Per Cent of Net Worth*		
	1929	1936	1948	1929	1936	1948	1929	1936	1948
DEPARTMENT STORES									
Less than $150,000	1.9	2.4		3.0	2.5		6.3	5.2	
$150,000–300,000	2.4	2.9		2.0	2.7		5.0	6.6	
Less than $250,000			3.2			6.8			c
$300,000–500,000	2.8	3.4		2.2	3.1		6.0	7.8	
$250,000–500,000			3.5			9.0			c
$500,000–750,000	2.7	4.1		3.2	4.1		6.8	9.8	
$750,000–1,000,000	3.4	4.3		3.0	4.1		6.6	9.2	
$500,000–1,000,000			4.2			6.9			20.0
$1,000,000–2,000,000	3.6	4.3	4.7	3.1	3.5	7.2	8.4	7.4	20.5
$2,000,000–4,000,000	3.9	4.0		3.7	3.6		7.6	8.4	
$2,000,000–5,000,000			5.0			8.0			22.5
$4,000,000–10,000,000	4.0	4.4		3.9	4.0		8.1	9.0	
$5,000,000–10,000,000			5.1			7.1			21.5
$10,000,000 and more	4.6			5.3			11.3		
$10,000,000–20,000,000		4.4	5.0		4.6	5.7		10.5	21.0
$20,000,000 and more		5.4			4.6			9.0	
$20,000,000–50,000,000			5.3			6.8			20.0
$50,000,000 and more			5.4			6.75			c
SPECIALTY STORES									
Less than $150,000	c	5.2		c	3.5		c	7.5	
$150,000–300,000		5.0			2.6			14.0	
Less than $250,000			6.5			5.1			c
$300,000–500,000		5.9			3.5			8.0	
$250,000–500,000			4.8			9.6			c
$500,000–1,000,000		5.7	6.0		3.4	6.0		12.0	c
$1,000,000–2,000,000		5.4			4.5			18.0	
$2,000,000–4,000,000		6.3			3.6			12.0	
$1,000,000–5,000,000			5.5			5.6			24.0
$4,000,000 and more		6.7			5.2			12.0	
$5,000,000 and more			6.2			6.1			23.0

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[a] *Operating Results of Department and Specialty Stores in 1929, 1936, and 1948.* Bulletins No. 83, 104, and 130, Harvard Bureau of Business Research.

[b] In the Harvard reports, this factor is called "Net Gain before Federal Taxes."

c Data not available.

Efficiency index = 4 × 5 = 20. (As an index, it is customary to express the figures without the percentage sign.)[9]

When the efficiency index is calculated by multiplying capital turn by profit on sales, the factors that make for a large return on the investment stand out in relief. One is the ability to sell merchandise for considerably more than its cost and its expenses and the other is the ability to obtain a high turnover on stock. Even if a merchant sees no opportunity to increase his markup or to cut his expenses relative to sales, he may still earn a greater return on his investment if he increases his stock-turn.[10]

It has been suggested that the efficiency index is a good measure of merchandising performance; but, alone, it may be misleading. On a declining sales volume, for example, a merchant might increase his markup and cut his stock drastically. Thus, he might show a higher efficiency index than before but he

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[9] Why it is that the product of the capital turnover and the profit on sales yields the profit on the investment may be demonstrated from the meanings of these terms:

$$\text{Capital turnover} = \frac{\$\ \text{Sales}}{\$\ \text{Average stock at cost}}$$

$$\text{and Profit on sales} = \frac{\$\ \text{Profit}}{\$\ \text{Sales}}$$

Therefore, Capital turn × Profit on sales =

$$\frac{\$\ \text{Sales}}{\$\ \text{Average cost investment}} \times \frac{\$\ \text{Profit}}{\$\ \text{Sales}} = \frac{\$\ \text{Profit}}{\$\ \text{Average cost investment}}$$

[10] The efficiency index may be calculated from the stock-turn, if the initial markup and the profit as a percentage of sales are known. For example, the rate of turnover in a department may be 5, the initial markup 40 per cent, and the profit earned on sales 3 per cent; find the profit on the merchandise investment. There are two ways to solve this problem:

(1) Let \$100 = sales
Then \$100 ÷ 5 or \$20 = the average retail stock
And \$20 × (1.00 — .40) = \$12, the average cost stock
\$3 ÷ \$12 = 25%, or an index of 25, the profit earned on the merchandise investment.

(2) According to the formula on page 290:

$$\text{Capital turn} = \frac{\text{Stockturn}}{\text{Comp. of markup}}$$

Therefore, $\frac{5}{.60} = 8\frac{1}{3}$, the capital turn.

Profit on the investment = Capital turn × Profit on sales
Therefore, $8\frac{1}{3} \times 3 = 25$, the efficiency index.

would be in a much worse condition with smaller dollar profits and loss of good will caused by inadequate stocks. For most merchants, it is more desirable to increase sales and resultant dollar profits than to aim at a maximum return on a static investment.

Nevertheless, the common practice of judging the value of classes of goods in a store by comparing their profits as a per cent of sales is also misleading. One class may show a very high profit on sales but have a low turnover and thus only an average return on the merchandise investment. Another may show a low profit on sales but a high turnover and be earning as much or more on its investment. For example, the corset department has often been singled out as the most profitable to the department store because of its very high profit on sales, but many other departments earn as much on their merchandise investments, having higher turnovers.

The efficiency index is not the only measure of over-all success. A healthy operation exhibits an increasing volume of sales, a satisfactory margin of profit, and a relatively high turnover. These three factors spell increased dollar profits, without a proportionate increase in the merchandise investment.

An analysis of two of the ways of comparing profits—as a percentage of sales, and as a percentage of the merchandise investment—leads to this conclusion: If the merchant is faced with the choice of spending $100 to promote either one of two classes of goods and the anticipated increase in sales in both instances is the same, he should promote the class that can earn the larger profit on the sales. On the other hand, if he is faced with the choice of investing $100 in either one of two classes of goods, he should choose the class that can achieve the higher return on the merchandise investment. In both choices, he would be maximizing dollar profits.

Limitations of Rapid Turnover

Danger of lost sales. As a general rule, it may be stated that stock-turn gained at the expense of sales volume is not profitable. Stock reductions that do not deplete desirable stock assortments offered to the customer are worth making, but reductions that interfere with sales are not. For example, a store may be realizing sales of $100,000 on a $25,000 stock, a turn of 4. If a reduction in stock to $20,000 should curtail volume to $90,000, the turnover would be 4½ but the situation much less satisfactory than before because a loss of $10,000 in sales volume much more than offsets the possible savings attributable to the higher turn.

While most stores and departments have not reached the limit at which rapid turnover ceases to be profitable, this limit should be recognized. A store cannot afford to lose sales by being "out." It has been frequently estimated that many stores lose 10 per cent of their possible sales volume by not having the goods they intend to carry in stock. These stores are generally suffering not from too high a turnover on total stock, but from having too much old stock and too little new, desirable stock.

Disadvantages of Rapid Stock-turn

1. Presents the danger of lost sales.
2. Increases merchandise costs.
   a. Transportation.
   b. Lost discounts.
3. Increases certain expenses.
   a. Correspondence.
   b. Handling of merchandise.
   c. Clerical.

Increase in merchandise costs. A second disadvantage of high turnover is that it increases certain merchandise costs, particularly transportation and the net cost of purchases through the loss of quantity discounts. An example of hand-to-mouth buying [11] is as follows: An item selling at the rate of 10 a week has been ordered; 130 were ordered at a time with a low unit cost of transportation. If 10 are now ordered every week, the transportation per unit will be higher and orders of 10 a week may not qualify for a quantity discount that was available on the larger orders.

Increase in certain expenses. A third disadvantage of high turnover lies in the increase in certain expenses, particularly correspondence, clerical, and handling costs. Thirteen weekly reorders in a three-month period will cost 13 times as much as one reorder in the quarter. Again, if 13 separate payments have to be made, the cost will be in proportion. Furthermore, the cost of receiving, checking, and marking 13 small shipments is much more than that of processing one shipment 13 times as large.

In the case of fashion merchandise, these cost and expense factors may not outweigh the advantages of rapid turnover, but in the case of staples, the cost of frequent orders may easily offset the advantages. It is probably seldom wise to order less than one week's supply at a time, except in the case of merchandise that customers replenish almost daily, such as perishable foodstuffs.[12]

In general, the lines in which customers repurchase frequently and in which a small assortment is demanded at the time of selection have the highest turnover. On the other hand, those goods turn the most slowly that are bought only once in many years but which require a large assortment to satisfy customers. Fresh fruits and vegetables are an example of the first, and furniture of the second. In between are found the great majority of commodities. The merchant's constant effort is to keep stocks large enough to meet demand but also small enough to minimize the risk of obsolescence and undue expense of merchandise charges.

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[11] For a detailed discussion of hand-to-mouth buying, see J. W. Wingate and N. A. Brisco, *Buying for Retail Stores*, rev. ed., page 232. New York: Prentice Hall, Inc., 1946.

[12] See Chapter 24, for a formula for calculating the "optimum" stock-turn.

REVIEW QUESTIONS

1. What is stock-turn? What are the three units of measure in which it may be calculated?
2. Why is stock-turn, when computed at cost, slightly higher than stock-turn computed at retail?
3. What is meant by the rate of stock-turn?
4. Is stock-turn fairly constant throughout the year?
5. What is the triple relationship among sales, stocks, and stock-turn?
6. Explain four methods of calculating average stocks.
7. Explain why the average stock figure may be distorted, even if monthly inventory figures are used.
8. How is it possible to use thirteen monthly figures in determining average stock and still avoid giving double weight to the transition period from one year to the next?
9. Why is it incorrect to treat the concept of stock-turn as synonymous with that of the number of times an initial stock is replaced during a period? Why is the average stock of any item about half the size of the initial stock?
10. Why is division rather than multiplication needed in averaging stock-turns for various lines?
11. Explain how to determine stock-turn requirements for one line of goods when the requirement for all lines combined and for other lines is known.
12. What is capital turnover?
13. When is the capital turnover ratio used?
14. What is the formula that expresses the relation between stock-turn and capital turn?
15. In what three respects does the stock-sales ratio differ from the stock-turn ratio?
16. How may stock-sales ratios be converted into stock-turn rates?
17. Why is it incorrect to average twelve B.O.M. stock-sales ratios and divide into 1, to find the average monthly stock-turn?
18. What is a weekly stock-sales ratio?

19. What advantages do stock-sales ratios have over stock-turn rates?
20. How may stock-sales ratios be averaged to calculate "annual stock-sales ratios"?
21. What are the four major advantages of rapid stock-turn?
22. How do savings in expense, growing out of rapid stock-turn, compare with savings in markdowns?
23. Would increased stock-turn have any advantage even if it failed to increase dollar profits in the line?
24. Does a study of Table V on page 300 reveal any long-time trends in (*a*) stock-turn, (*b*) net profit as a percentage of sales, (*c*) net profit as a percentage of net worth?
25. What is the efficiency index? In what two ways may it be computed?
26. What are the advantages and shortcomings of the efficiency index as a measure of merchandising efficiency? What other factors deserve equal consideration?
27. What are the disadvantages of rapid stock-turn?
28. Since an increasing rate of stock-turn decreases some expenses while it increases others, is it fair to conclude that its advantages are offset by its disadvantages? Why?

17

How to Increase Stock-Turn and Dispose of Slow-Selling Merchandise

In view of the importance of stock-turn as a factor in increasing the profit on sales and in making a merchandise investment productive, a successful merchant must give a great deal of attention to ways to increase stock-turn. One of these is to increase sales without a proportionate increase in the stock, and the other is to decrease stock without a proportionate decrease in sales.

Increasing Sales to Increase Stock-turn

A store may do a volume of $100,000 a year and carry an average stock of $25,000. The stock-turn is 4. An increase in sales to $125,000 with more frequent buying but with no increase in the average amount of stock on hand yields a turnover of 5. Increased profits in this case, however, would be partly the result of the increase in sales and partly the result of the increase in stock-turn.

Dress chain operators report that when one of their stores has too low a turnover, the first step in correction is to ship the store a quantity of the most desirable, best-moving styles available and to step up sales promotional activity. The new styles do not increase the average stocks significantly because they sell very quickly after receipt at the store. The resultant increase in sales usually brings turnover back into line and undesirable stocks are gradually weeded out by sale.

Ways to Increase Stock-turn

$$\text{Last year's stock-turn: } \frac{\text{Net sales} \qquad (\$100{,}000)}{\text{Average stock at retail } (\$\ 25{,}000)} = 4$$

1. Examples of increasing sales without a proportionate increase of stock:

$$\text{Plan A: } \frac{\text{Net sales} \qquad \$125{,}000}{\text{Average stock at retail } \ \$25{,}000} = 5$$

$$\text{Plan B: } \frac{\text{Net sales} \qquad \$110{,}000}{\text{Average stock at retail } \ \$22{,}000} = 5$$

2. Examples of decreasing stocks without a proportionate decrease of sales:

$$\text{Plan A: } \frac{\text{Net sales} \qquad \$100{,}000}{\text{Average stock at retail } \ \$20{,}000} = 5$$

$$\text{Plan B: } \frac{\text{Net sales} \qquad \$90{,}000}{\text{Average stock at retail } \ \$18{,}000} = 5$$

Decreasing Stocks to Increase Stock-turn

The second method of increasing turnover is to reduce stock without adversely affecting sales. For example, with sales of $100,000 and a former stock-turn of 4, it may be possible to reduce stocks to $20,000, thus achieving a turnover of 5.

Where the local business situation precludes a prompt increase in sales, it is clearly desirable to concentrate on stock reduction. There are many ways to do this without interfering with maximum sale possibilities. The major ways are discussed below:

Reduce the number of price lines carried. Many stores carry more price lines than are necessary to satisfy customer demand. Prices a few cents apart from one another not only increase the stock investment but also confuse the customer. If, for example, there were 6 price lines of nylon hosiery between $1.50 and

$5 and if 3 would be sufficient, the assortment at these three price lines could be expanded while cutting the total stock investment to a point perhaps a quarter lower than before.

Just how many price lines to carry is a question that cannot be answered categorically.[1] In general, three major price lines are desirable—a low, a medium, and a high. Intermediate prices are frequently needed. Many shoe stores and some men's suit stores have been successful with only one price line. A woman's dress chain recently tried selling at a single retail price, but found that not enough women would buy at this one price to allow it to operate economically. A range of prices was found to be necessary.

Avoid duplicating styles and brands. Another common practice interfering unduly with turnover is to carry a number of different styles that resemble one another so closely that any one of them would satisfy the great majority of customers for an article of that type. Key items bought from different resources, often under different brand names, may be very similar. It is true that customer demand for certain brand names may make some duplication unavoidable, but the practice should be kept at a minimum. One chinaware buyer has a good system: He keeps in his office a rack of the bread and butter plates of every pattern he has in stock. Whenever a new pattern is offered him, he compares it with those on the rack. If the new pattern is very nearly the same as the one he has, he will "pass it up," even though it may have good sales potentialities. It will simply compete with a pattern already on hand, thus robbing Peter to pay Paul.

Manufacturers, as well as retailers, have found it possible to reduce assortments, in the interests of their own turnover and that of their customers. For example, the New England Confectionery Company used to make 286 separate items, among them 16 nickel bars. The list was reduced to 65, with only 8 nickel bars.

Reduce size or color assortments. In some cases, size and/or color assortments may be restricted without loss of sales. In the home furnishings field particularly, manufacturers, in their attempt to cater to many tastes in many localities, commonly offer more sizes and colors than any one store needs to carry. Yet, there is a tendency for the buyer to think he should buy the entire line. But items of home furnishings seldom have to fit exactly. For example, one large store that had carried drain mats in 12 sizes found that it could satisfy virtually all customers with an assortment of 5 sizes. Again, a limitation of colors to the clearly popular ones usually assures all the business available, even though other colors sell if stocked.

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[1] See Chapter 9 for a fuller discussion.

In the clothing field, a reduction in color and size assortments is more risky. Recently, however, the manufacturers themselves have been simplifying size assortments by making some articles of clothing in three rather than six or more sizes. Examples are found in shorts, undershirts, sport shirts, and raincoats. Such simplification has enabled stores to reduce greatly the assortment necessary to support a given volume of trade.

Again, end-sizes may account for such a slight portion of the business as not to warrant the investment. Figure 20 indicates the area of active volume in shoes as determined in one store. The heavy shaded portion is known as the *heart* stock and the lightly shaded portion as the *fringe* stock. Since it is not possible to forecast demand exactly, it is better to err in the direction of over-buying on the heart stock and of under-buying on the fringe stock. This rule applies not only to sizes and widths but also to colors and brands.

In the case of colors, the variety necessary depends upon the store's clientele. In general, groups with no special training in color perception are satisfied with a limited assortment of full, primary colors, whereas a more sophisticated clientele demands off-shades and a correspondingly larger assortment.

It does not follow from the above discussion that all stores will find it wise to reduce size and color assortments. Some stores create a personality for themselves by carrying unusual

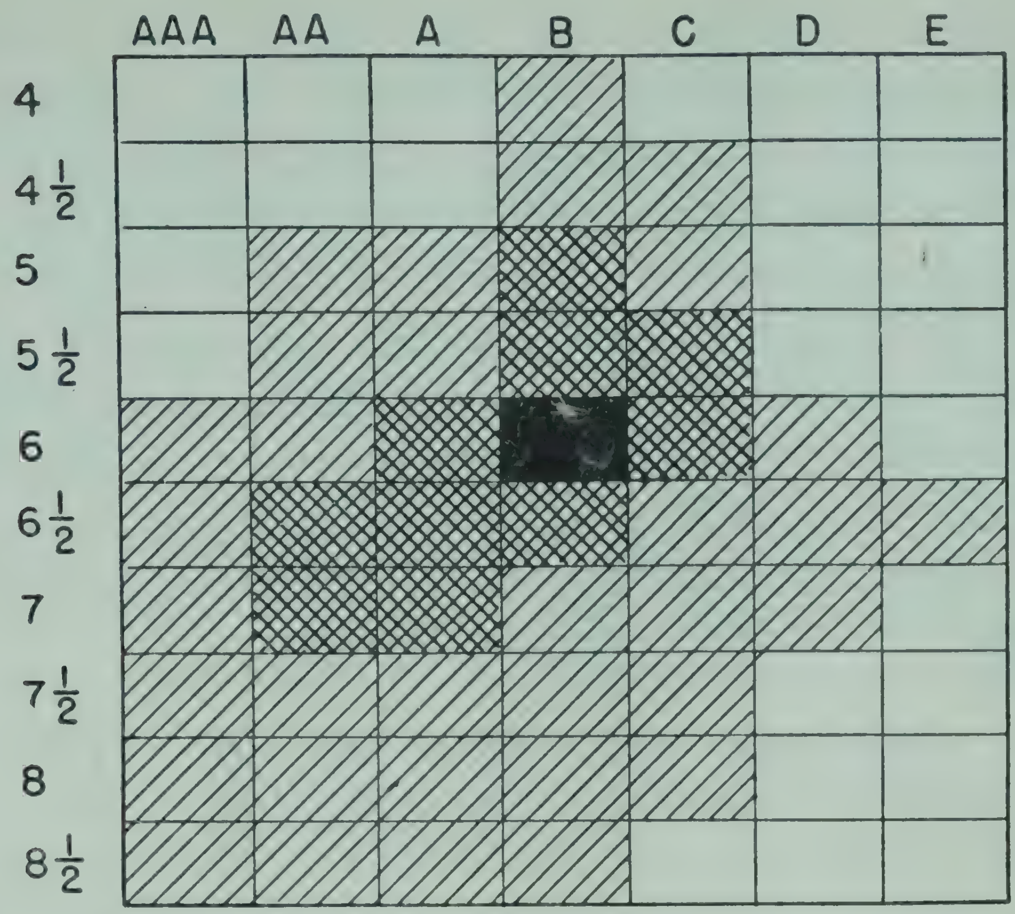

FIGURE 20. Size and Width Distribution of Women's Shoes.

sizes and colors and draw a steady, repeat patronage from the stout, the small, or those who seek the uncommon.

In connection with size and color requirements, it should be noted that a detailed analysis of past sales alone will not provide the answer. If a well-designed saucepan is carried in 6 sizes, all may sell fairly well even though 99 per cent of the customers probably would have bought had only 4 sizes been available. It is necessary to supplement sales analysis with imagination based upon an understanding of customer psychology.

Keep stocks balanced to sales. Another method of keeping stocks at a minimum is to work out a model stock and buying plan based upon sales expectations. A department may include 12 subdivisions or classifications of merchandise with 25 per cent of its dollars of sales volume in the largest classification and only 2 per cent in the smallest. But a stock analysis may reveal that it is carrying 10 per cent of its stock investment in each. In all probability, more stock could profitably be carried in the leading classification and less in the least important one. By planning the stock with sales volume and customer needs in mind, a better balance can be achieved; and the reductions of stock planned in certain classifications will probably not be completely offset by increases at others. Even if the model stock were no lower, the improved assortment may lead to an increase in sales and thus bring about a faster stock-turn.

When stocks are studied with the purpose of increasing stock-turn, however, the first action taken may be to reduce stock-turn by building up stocks where they are incomplete. For example, in the case of 5 types of articles, it may be found that ideally 10 of each should be in stock. The inventory may show a total stock of 60 distributed as follows:

Commodity	*A*	*B*	*C*	*D*	*E*
Ideal	10	10	10	10	10
On hand	12	3	25	1	19

The first act should be to build up articles *B* and *D* to the proper quantity, temporarily increasing total stock to 76. The next step is to correct the overstocked conditions of *A, C,* and *E.* It is easier and quicker to correct a shortage of stock than an excess, and it is generally unwise to refrain from buying needed merchandise that is in demand because of the presence of too much unneeded goods in other classifications. When the stock adjustment is completed, however, an improvement in turnover is generally to be expected, because of a reduced stock in the aggregate and because of increased sales due to better assortments.

Buy more frequently. In the case of merchandise that is reordered, one of the best ways to reduce stock is to reorder more frequently but in smaller quantities each time. A drug item may be selling at the rate of 12 a week and the merchant may be reordering a gross every 12 weeks, and holding an extra 2 dozen as a reserve. The stock, then, normally fluctuates from a low of 2 dozen to a high of 14 dozen, an average of 8 dozen. Were monthly reorders of 4 dozen to be placed, with no change in the reserve, the average stock would be between the low of 2 dozen and a high of 6 dozen, or 4 dozen, and the stock-turn would be doubled. As already indicated, there are some extra expenses in buying frequently and a discount might be available only on purchases of a gross at a time, but it is possible to weigh the gains against the cost.

Reduce reserve. The extra or reserve stocks carried for many staples are sometimes larger than necessary. For example, in the instance cited above the merchant may find that sales are very regular at 12 a week and that delivery of his reorders is seldom delayed; he may find that he has never had to draw on more than 8 pieces from his reserve. Obviously, a reserve of 2 dozen is much larger than necessary. Were it cut to 12 (one dozen), with monthly reorders of 4 dozen, the average stock would be 3 dozen rather than 4 and the turnover correspondingly increased. Thus, by cutting down excessively high reserve stocks, it may be possible to reduce the stock investment without in any way limiting the customer in his choice of merchandise.

Eliminate slow-selling merchandise. Perhaps the most obvious way to reduce stocks without interfering with sales is to weed out slow-selling merchandise. Odds and ends tend to accumulate in every stock; a promotional sale may be held and the leftovers from the sale must be cleared out by drastic measures. When style numbers are discontinued, broken assortments may be left on the shelves. Clearly, this merchandise is contributing very little to the current sales volume and even

Ways to Reduce Stocks Without Interfering with Sales

1. Reduce number of price lines.
2. Avoid duplicating styles.
3. Concentrate on best selling sizes and colors.
4. Keep stocks balanced to sales.
5. Buy more frequently, in smaller quantities.
6. Reduce the reserve stocks on staples, if they are unnecessarily large.
7. Eliminate slow-selling merchandise.

less in attraction value. Yet it clogs the stock and holds down the rate of turnover. The problem of slow-selling merchandise is so important that the rest of this chapter will be devoted to it.

Slow-Selling Merchandise

One of the chief problems in connection with stock-turn is to get rid of goods that stay on hand so long as to jeopardize the realization of a desired turn. There are really four distinct problems: first, what to regard as slow-selling goods; second, how to locate these goods in stock; third, how to get rid of them; and fourth, how to avoid their accumulation.

What is slow-selling? Slow-selling merchandise (sometimes called prior stock) may be defined as merchandise that has been in stock a longer period than experience indicates is desirable. The usual plan is to set a time limit for each department or classification. For example, any handbag that is in stock more than four months may be considered as slow-selling and in need of prompt disposal. Probably the best way to determine this limit is from the planned turnover of the classification. For example, if six turns a year are desired, the average stock is planned as two months' supply, and goods over two months old may be regarded as slow-selling.

Thus, if purchases are being made daily, if a constant stock of two months' supply is maintained, and if the first item put into stock is the first item sold out of it, the item bought today should sell two months hence.[2] If not sold then, it should be listed as slow-selling. This does not mean that it should necessarily be marked down then, because items cannot be expected to sell in the exact order in which they are introduced into stock, but the item should be subjected to careful inspection.

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[2] If purchases are made less frequently than every day, the last half of every shipment will normally require more than two months to sell, since the entire purchase will not be sold as soon as the previous stock is disposed of. In such instances, the slow-selling limit may be extended somewhat beyond the turnover period.

In most stores, time limits are not based exactly on turnover. For convenience these limits in clothing stores, for example are set at one of the following points: 6 weeks old, 3 months old, 6 months old, 12 months old, and 18 months old.

A second method used to determine what is slow-selling is to set up a weekly rate of sale in units. Any items that fail to sell at the predetermined rate are considered slow-selling. For example, for sport shoes, a rate of sale of two pairs a week may be set for every style. If a style fails to sell at this rate for two or four consecutive weeks, it is adjudged slow selling. Here, attention is not directed to the length of time goods stay in stock but to the rate of sale.

This method is an excellent supplement to the time limit, for it makes it possible to apprehend an item that is likely to fail to sell before the time limit, unless a special effort is made.

The third plan is to compute the rate of turnover on individual items in stock. For example, over a two-month period, a shoe department may be maintaining an average stock of 60 pairs of shoes in a certain style, and the sales may be 5 a week. On an annual basis, this is sales of 260 pairs (5 × 52), with an average stock of 60, and the turnover is 4.3. If 6 turns are planned for this classification of shoes, the style may be considered slow-selling even though most of the goods may have been on hand less than two months.

This method is satisfactory only where stock is being kept up by reorders; in this case it shows what should be taken off the reorder list and closed out. It is not satisfactory in determining the slow-selling items in the case of fashion goods not commonly reordered. For example, 50 pieces may be put into stock at the beginning of a period and 30 left at the end of two months. It is incorrect to determine the turn by dividing the sales of 20 by an average stock of 40 [(50 + 30)/2]. This would give an erroneous ½ turn for the two months, or 3 turns for the year. Actually, at the existing rate of sale of 10 a month, it will take 5 months to sell out the supply. The average stock, during the life of the item, would be only 25, a 2½ months' supply. On an annual basis, the turn is $4\frac{4}{5}$ ($12 \div 2\frac{1}{2}$). An average of the stock during the early stages of the sales of a class of goods is not a true average indicative of its entire "life."

Locating slow-selling goods. The control of slow-selling stock is dependent generally upon periodic inventories.

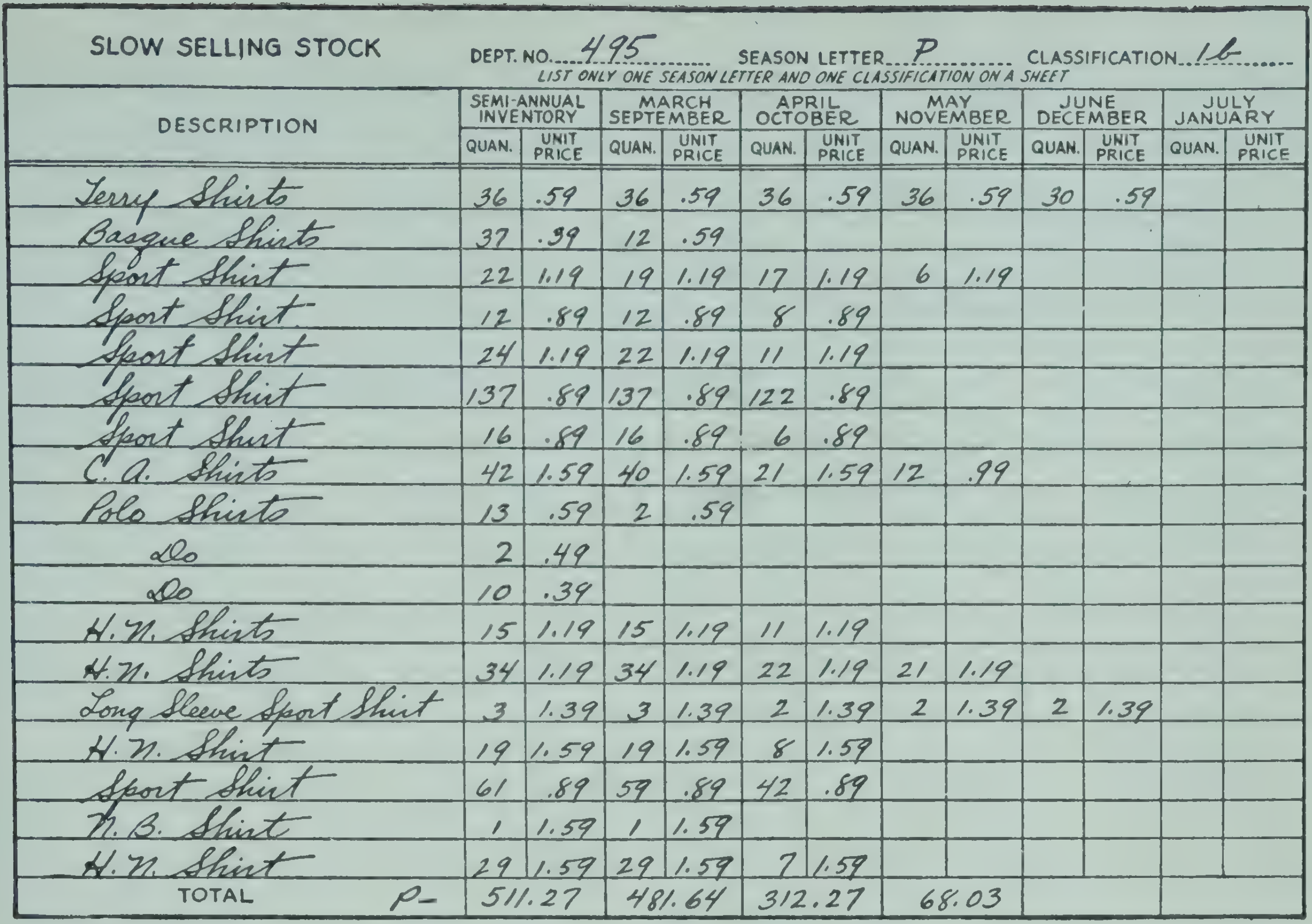
In the case of baked goods, for example, the day of delivery to the retailer is indicated on the wrapper by printing or perforation. A daily inventory by the grocer readily discloses the quantity of stale goods in stock.

For general merchandise, a common plan is to mark each price ticket to indicate the six-month season and often the date as well. *A* may represent the spring season, February–July, 1950, and *B* the fall season, August, 1950–January, 1951. February, 1950 would be designated as *A1* and March as *A2*. October, 1950, would be *B3*. Some stores check over all stock each month or six-week period and make a list of all items bearing old season and month letters, in accordance with the time limits agreed upon.

A more common practice is to make lists every six months from the regular inventory sheets of all stock more than three months, six months, and a year old. The items appearing on these lists are recounted every month, but additional items are not included until the next regular inventory six months later. A good system of this type used by a large store is briefly as follows:

1. Buyers or their assistants copy from the official six-month inventories all merchandise six months old or older. These items are listed by season and classification on slow-selling sheets. See Figure 21.

2. Buyers budget the dollar amount of slow-selling merchandise they intend to have on hand on subsequent monthly inventory dates. For example, if on February 1 there is \$2,804 worth of merchandise from 6 to 12 months old, the buyer may plan to reduce this quantity to \$2,400 by March 15 and to dispose of all but \$100 worth before the next semiannual inventory, July 31. See Figure 22.

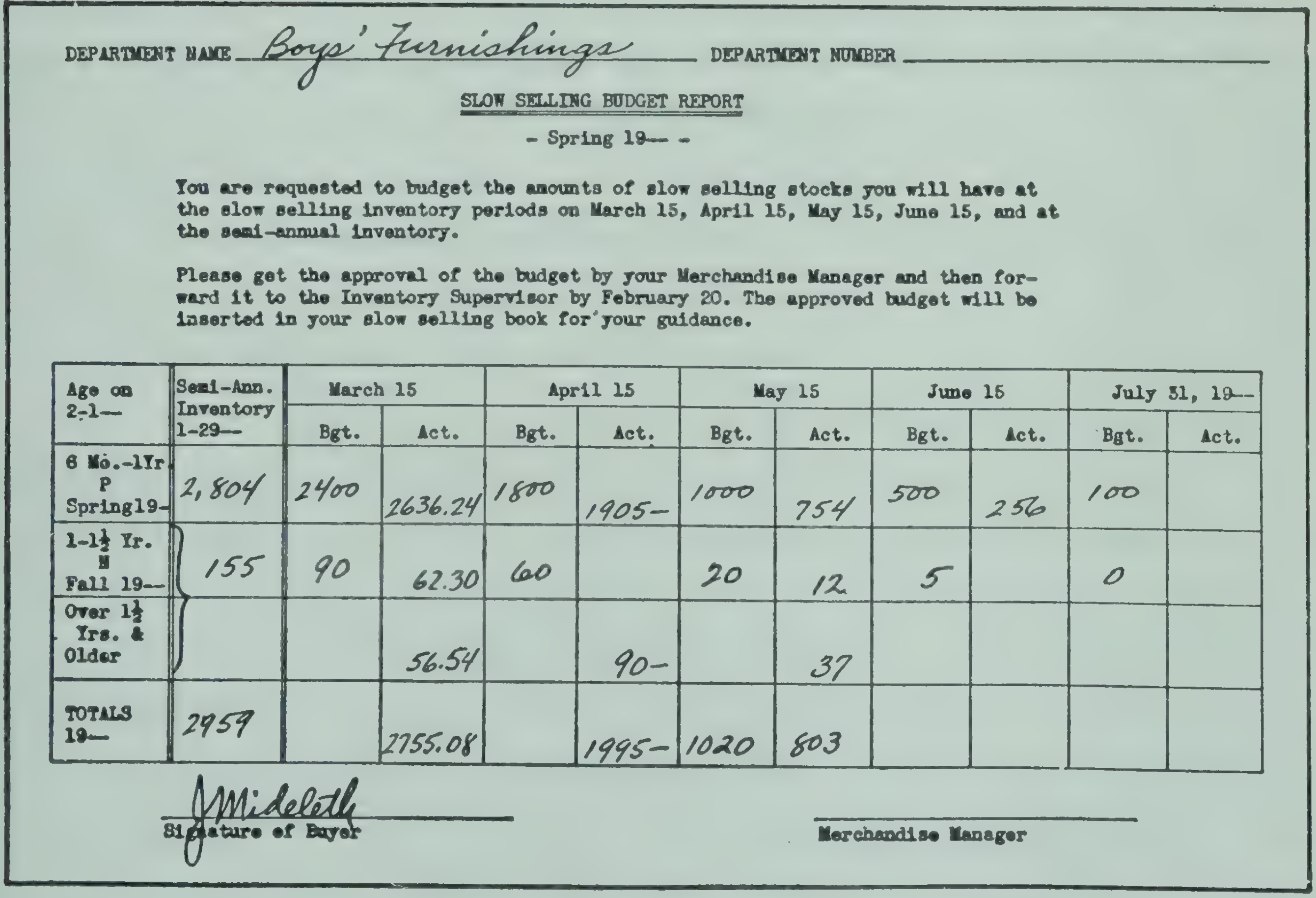


SLOW SELLING STOCK DEPT. NO. 495 SEASON LETTER P CLASSIFICATION 1b

LIST ONLY ONE SEASON LETTER AND ONE CLASSIFICATION ON A SHEET

DESCRIPTION	SEMI-ANNUAL INVENTORY		MARCH SEPTEMBER		APRIL OCTOBER		MAY NOVEMBER		JUNE DECEMBER		JULY JANUARY	
	QUAN.	UNIT PRICE	QUAN.	UNIT PRICE	QUAN.	UNIT PRICE	QUAN.	UNIT PRICE	QUAN.	UNIT PRICE	QUAN.	UNIT PRICE
Terry Shirts	36	.59	36	.59	36	.59	36	.59	30	.59		
Basque Shirts	37	.39	12	.59								
Sport Shirt	22	1.19	19	1.19	17	1.19	6	1.19				
Sport Shirt	12	.89	12	.89	8	.89						
Sport Shirt	24	1.19	22	1.19	11	1.19						
Sport Shirt	137	.89	137	.89	122	.89						
Sport Shirt	16	.89	16	.89	6	.89						
C. A. Shirts	42	1.59	40	1.59	21	1.59	12	.99				
Polo Shirts	13	.59	2	.59								
Do	2	.49										
Do	10	.39										
H. N. Shirts	15	1.19	15	1.19	11	1.19						
H. N. Shirts	34	1.19	34	1.19	22	1.19	21	1.19				
Long Sleeve Sport Shirt	3	1.39	3	1.39	2	1.39	2	1.39	2	1.39		
H. N. Shirt	19	1.59	19	1.59	8	1.59						
Sport Shirt	61	.89	59	.89	42	.89						
N. B. Shirt	1	1.59	1	1.59								
H. N. Shirt	29	1.59	29	1.59	7	1.59						
TOTAL P–	511.27		481.64		312.27		68.03					

FIGURE 21. Slow-Selling Stock Sheet.



DEPARTMENT NAME Boys' Furnishings DEPARTMENT NUMBER

SLOW SELLING BUDGET REPORT

– Spring 19— –

You are requested to budget the amounts of slow selling stocks you will have at the slow selling inventory periods on March 15, April 15, May 15, June 15, and at the semi-annual inventory.

Please get the approval of the budget by your Merchandise Manager and then forward it to the Inventory Supervisor by February 20. The approved budget will be inserted in your slow selling book for your guidance.

Age on 2-1—	Semi-Ann. Inventory 1-29—	March 15		April 15		May 15		June 15		July 31, 19—	
		Bgt.	Act.	Bgt.	Act.	Bgt.	Act.	Bgt.	Act.	Bgt.	Act.
6 Mo.-1Yr. P Spring 19-	2,804	2400	2636.24	1800	1905–	1000	754	500	256	100	
1-1½ Yr. N Fall 19—	155	90	62.30	60		20	12	5		0	
Over 1½ Yrs. & Older			56.54		90–		37				
TOTALS 19—	2959		2755.08		1995–	1020	803				

JMidelett
Signature of Buyer

Merchandise Manager

FIGURE 22. Slow-Selling Budget Report.

3. The salesperson in charge of each section of stock in the department each month reports slow-selling merchandise by season. See Figure 21.

4. The monthly total on hand, by season, is checked against the slow-selling budget made at the beginning of the season. If the amount on hand is greater than the budgeted amount for that date, more drastic action is taken to bring the stock figure into line prior to the next monthly inventory.

5. The next official six-month inventory is checked against the last monthly listing to make sure that salespeople did not neglect to list monthly all the slow-selling merchandise in their sections.

The above system costs the services of one man in the merchandise office, and two outside comptometer operators, hired to figure the monthly inventories. The rest of the work is done in the departments. The results have been satisfactory and the percentage of slow-selling merchandise has been reduced to a very low figure.

There is one objection to this plan as usually operated. Since items are added to the slow-selling list only every six months, some may be almost a year old before classed as slow-selling stock. For example, with six months as the limit, an unsold item bought in February, 1950, would not be put on the slow-selling list on August 1; accordingly it would not be listed as slow-selling until February 1, 1951, when it would be almost a year old.

In some stores, to avoid this difficulty, the entire stock (at least of certain departments) is checked over at frequent intervals, such as every six weeks. Every price ticket is inspected, and all goods that are older than the prescribed time limit are listed. This method takes longer than the usual one in that here all items must be inspected, whereas under the common plan only the items already listed on the slow-selling sheets are checked. But the periodic complete inspection allows a more exact control in that each item that has exceeded its time limit is promptly apprehended.

When detailed unit control records are kept, they may be used to reveal slow-sellers. For example, one store keeps a purchase record of every dress and coat received, and each is assigned a serial number. Whenever a garment is sold, it is checked off against its purchase record. Since the purchase record is arranged according to date of receipt, it is possible at any time to determine how many of any day's receipts of merchandise are still on hand. For example, if any garment more than 6 weeks' old is classified as slow-selling, it is easy to locate the entries on the receipt 6 weeks ago and to spot the items that have not yet been checked out of stock.

In most control systems, serial numbers are not assigned to each item but the system may nevertheless reveal slow-sellers. For example, the record may show that 12 of a style were received on a certain date and that 8 of these are still on hand 3 months later. If reorders had been received in the interim, however, it would not be possible to tell from the record whether the items remaining are 3 months old or not.

Disposal of slow-selling goods. The usual way to dispose of slow-selling stock is to take drastic markdowns, but sometimes the goods may be moved by less expensive but more intelligent methods.

One store has set up the following rules to assist in prompt disposal:

1. Every salesperson is required to keep a record of slow-selling merchandise sold daily. This record is tabulated for the general merchandise office.
2. Buyers are required to report to the general merchandise office in writing their day-by-day methods of clearing the slow-selling stock, that is, using drapery lengths to upholster furniture, and so forth.
3. Buyers are required to analyze "lumps" of slow-selling merchandise with the idea of dramatizing it in newspapers and windows with some new slant in presentation or use.

The smart merchant considers alternate methods carefully, rather than assuming that the only method of disposal is to sell at cost or less. Actually, there are a surprising number of ways to dispose of slow-sellers. Some may be used in lieu of markdowns and others in combination with smaller markdowns that would otherwise be required. The box on page 321 indicates the possibilities. It will be noted that twenty-one different methods are listed. Although some can be used only occasionally and while a few may be objectionable, it is clearly shortsighted to depend wholly upon markdowns to move goods. The list deserves some discussion.

1. Grant markdowns to customers. If this method is to be used, there are two major questions: Just when should the markdown be taken, and how large should it be? These problems were considered in detail in Chapter 10.

2. Grant markdowns to employees. If a lot is small, it is often wiser to offer it to the store's employees rather than to its customers. Even more than the customer, salespeople recognize the bargains that many markdowns provide. Morale is improved by giving members of the store family the first chance to buy the bargains. In some stores, odd lots of desirable merchandise are assembled periodically from all over the store and offered at large concessions to the "co-workers."

3. Grant markdowns to jobbers. Jobbers are dealers who make a specialty of buying slow-selling merchandise from stores. Even though the prices they will pay are often low, it is sometimes wise to sell to them. They clear out an entire "sour" lot at once. The prestige of the store might be harmed by continuing to promote the unwanted goods and salespeople become weary of trying to dispose of the "white elephants."

4. Grant markdowns to other retailers. Retailers occasionally buy from one another. This is a common practice when an entire line is being discountinued. Sometimes an auctioneer handles the sale. Sometimes a store-member of a resident buying office reports to the other members of the group whatever overstocks it wishes to clear, and one of the other stores may negotiate for a purchase.

5. Give to charity. It is sometimes better to mark goods

Ways to Dispose of Slow-Selling Merchandise

A. Price reductions:
  1. Grant markdowns to customers.
    a. As soon as slow-sellers are spotted, goods remaining on sale until sold.
    b. At end-of-month clearance sales.
    c. At end-of-season clearance sales.
  2. Grant markdowns to employees.
  3. Grant markdowns to jobbers.
  4. Grant markdowns to other retailers.
  5. Give to charity.

B. Price increases:
  6. Raise the price.

C. Promotion:
  7. Display the goods effectively inside the store.
  8. Advertise the goods forth-rightly in sale advertisements.
  9. Stimulate the sales force.
    a. By PM's.
    b. By contests.
    c. By department meetings.

D. Combination selling:
  10. Package goods into sets.
  11. Introduce tie-in selling.

E. Reconditioning and remodeling:
  12. Clean and repair goods.
  13. Remodel and repackage goods.
  14. Make new articles from slow-selling materials.

F. Transfer:
  15. To another department within the store.
  16. To another store within the chain or branch system.
  17. Return to the vendor.

G. Questionable methods:
  18. Offer only one to a customer.
  19. Introduce slow-sellers as new goods, after holding them in reserve.
  20. Take competing goods off sale.
  21. "Sweeten up" the lot by mixing new goods with old.

down to zero and to give them to charity rather than to sell to a jobber at distress prices. Many institutions lack the funds to buy and may be able to make good use of much slow-selling merchandise. To forego a possible sale at a very low price is a small cost to pay for the goodwill that can be created. Giving to charity is good public relations.

6. Raise the price. Nearly every buyer can cite from experience examples of how a price increase rather than a decrease moved slow-selling goods. For example, the prevailing price of a certain type of fountain pen was at one time $7.50. A store was able to procure some pens of this type of comparable quality for $2 each and retailed them $3, but they failed to sell. It was not until they were marked up to $6.75 that they started to sell well. The goods were initially priced so low that customers thought they must be of inferior quality. It was not until they were marked up to a price closer to the normal retail price for such goods that customers showed interest.

7. Display the goods effectively inside the store. Either as a substitute for a price reduction or as a supplement to it, slow-sellers need promotion, and display is one of the least expensive methods.

To display merchandise not only costs little but is often effective. There are key spots in every store or department where an article displayed is seen by nearly every customer. If the merchant is careful to place in these spots only those slow-sellers that he thinks are still "good," he has a reasonable chance of a sale with little or no markdown. Goods that are clearly obsolete, however, should not be displayed in these key places, since the prestige of the store may be harmed. It is better to assemble the marked-down goods on designated clearance racks and counters. Some stores have special clearance sections where goods are assembled for the convenience of bargain seekers.

8. Advertise the goods forthrightly in sale or clearance advertisements. Occasionally, it is worth while to advertise slow-selling merchandise as well as to display it. This is a useful

device at the end of the season when a clearance sale is to be held. Since the advertisement is to feature a sale embracing a great many items rather than only one, the cost is low relative to the volume that may be expected. Ordinarily, it is not wise to advertise small individual lots as they become slow-selling. It is bad enough to have to take a markdown without taking a further loss in the form of advertising expense.

9. Stimulate the sales force. There is no doubt that a great deal of slow-selling merchandise is slow-selling not because of any error in buying or of changes in demand since it was purchased, but rather because of improper presentation or lack of presentation by the salespeople. In many lines, items are stored out of sight of customers. Unless salespeople show them, they tend to remain unsold. If salespeople themselves are not "sold" on them, wisely bought goods are destined to be marked down. Salespeople are often younger than their customers and their standards of taste may vary; they may fail to present what they don't like themselves. Again, to the salesperson of fashion merchandise, a style is "old stuff" after it has been in stock a week—her interest is centered on the styles that have just arrived. In such situations, the merchant's job is to stimulate the salesperson to push the goods. This is often done by giving bonuses for selling specified articles. These rewards are called PM's, which means *premium money* or *push money*. A PM of 50 cents on a $10.95 article is likely to move it more effectively than a markdown to $10.45, or even $10. Thus, the loss in giving the PM is frequently less than would result from an adequate markdown. Nevertheless, if the PM plan is indiscriminatingly used it will breed ill-will as a result of high-pressure selling. It is probably wise to limit PM's to styles that are still in fashion and to qualities that represent very good value at the price asked.

It should be noted that the more experienced the salesforce, the more satisfactory the PM system. Professional salespeople have developed a following and come to recognize the value of repeat trade. The PM will not induce them to run the risk of losing a customer by selling wrong merchandise, but will induce them to present the slow-sellers at every legitimate opportunity.

Instead of PM's, some merchants give other kinds of awards. Contests may be held, with prizes to those who sell the most. Such devices are generally better suited to selling regular stock. Too much emphasis on selling old goods may lead to neglect of regular merchandise, where the major profits lie.

Probably the best way to stimulate the force is for the merchant to discuss the slow-sellers at weekly meetings of the sales force. The slow-selling articles can be studied and their strong and weak points analyzed by the group. Once the salespeople clearly understand for what types of customers the articles are intended, they are likely to cooperate enthusiastically in moving them. A retailer with qualities of leadership does not often have to depend upon PM's and stunts. He develops a team sense whereby all work together to solve the problems of "shelf-warmers" as they arise.

10. Package goods in sets. Slow-sellers sometimes find a ready market by being offered in conjunction with other merchandise. One plan is to make up a set in which a slow-seller is included. For example, a baseball bat may not sell readily, but packaged as a set with a ball and a glove, it may. One buyer had some high-grade handkerchiefs that failed to sell. She boxed one of these with six lower priced handkerchiefs and announced the set as a week's supply with a better quality one for Sunday. The set was a big success and no markdowns were necessary.

11. Introduce tie-in sales. A variety of the combination sale is for the seller to insist that the buyer take unwanted goods in order to buy wanted ones—unwanted accessories, for example, in order to procure a car. During World War II, many manufacturers and some retailers resorted to such practices. Normally, the ill-will created will harm the seller, even though slow-sellers are moved with no immediate loss.

12. Clean and repair goods. Careless buyers frequently

mark down articles that are only slightly soiled, perhaps with a smudge of lipstick, when the goods could be easily cleaned prior to sale, sometimes even by the salespeople themselves. Sometimes a faded garment can be dyed a darker color at much less cost than that of a markdown. One retailer had some soiled white teddy bears; he had them dyed brown and they sold readily. Manufacturers often stand ready to repair their wares that have become damaged, usually at a low price in comparison with the loss involved by taking a markdown.

13. Remodel and repackage goods. Usually there is something more wrong with goods than dirt or damage. Restyling may prove a substitute for a markdown. A chain store had a style of women's shoe that failed to sell. Inquiry among salesmen indicated that customers objected to the large "sloppy" bow. At a cost of 25 cents a pair, the bows were replaced with a trim buckle and the shoes sold readily at full price.

Sometimes all that is necessary is to repackage goods. This is often done with candies. A little colorful ribbon and paper artistically applied attract the attention of customers to articles they passed up before.

14. Make new goods from slow-selling materials. It is sometimes possible to make new, wanted merchandise out of slow-sellers. One buyer had some slow-selling children's handkerchiefs. He had salespeople make them up into little toy parasols and the customers were entranced. Another had some cretonne yardage made up into colorful pillows that proved much more popular than the same material by the yard. A great deal of Army surplus of both World Wars has been made of interest to customers by using a little imagination: gas masks have been broken down and goggles and other parts sold separately; or light globes for ships have been made into ivy bowls for the window.

There is danger, of course, that remodeling and making new articles from old ones will not justify the cost and effort. Nevertheless, many astute merchants analyze the possibilities along these lines before taking markdowns.

15. Transfer the goods to another department within the store. The best solution for disposal often is to move goods to another part of the store where they will be exposed to new customers. For example, as a convenience to customers, cigarette cases may be carried in the men's furnishings department, the gift department, the smoke shop, and the silverware department. A case that fails to sell in one location may sell readily in another. Often the transfer involves moving the goods to a lower-priced department—better dresses to a budget department or men's clothing to the basement. In such cases, a markdown is usually necessary, but may be smaller than what would be required to sell the goods to customers in the original department. Even were the loss no less, the goods will probably move faster if offered to the lower income group and the prestige of the "upstairs" department will be protected.

16. Transfer the goods to another store within the chain or branch system. In chains, goods are often transferred to another unit where they may prove more salable due to differences in seasons or to different characteristics of the clientele. Some chains have outlet stores in big cities to dispose of goods unsalable in their regular stock. In the heterogeneous crowds that throng these stores, there is a buyer for nearly everything. The item that is wanted by no one in the small community will find a buyer in the outlet store.

Some stores find that by means of the transfer device they can hold a special promotion in one store with relatively small markdowns. One chain assembles slow-sellers in women's coats once a year at its original store. Here customers are offered full assortments. Were the various units to try to dispose of their broken assortments locally, much larger markdowns would be required.

17. Return the goods to the vendor. Occasionally, it may be possible to transfer or return slow-sellers to the supplier, but this would usually be an unethical practice. However, if a buyer has purchased a large lot that proves unsuited to his clientele, it is proper to consult with the vendor. He may have

a ready market for the goods elsewhere and may be willing to take them back at little or no loss to the store—as a service to a good customer in need of help.

18. Offer "only one to a customer." In addition to the "legitimate" methods of disposal discussed above, sharpsters use tricks that move the goods but do not build good will. One practice is to put out a sign, "One to a customer." Passers-by assume the goods to be in active demand and buy accordingly.

19. Introduce slow-sellers as new goods, after holding them in reserve. This is another stunt. The goods are taken off sale for a few weeks and then brought back into stock as new. This practice sometimes fools salespeople as well. They push what they think is new merchandise with much more enthusiasm than the old.

20. Take competing goods off sale. There have even been cases where popular brands, in hair tonics, for example, have been taken off sale in order to limit the customer's choice to the slow-selling brand. But this practice works only in isolated communities where there is little competition.

21. "Sweeten up" the lot by mixing new goods with old. Perhaps the most common trick of all is to add some new desirable merchandise to the old and then to promote both lots as one. Among the many attracted to the sale are those who do not perceive the difference between the new and the old; thus, obsolete goods may move out at little immediate loss. But such "sweetening up" usually is not good for public relations.

It is clear from the above that there are many ways to move slow-sellers. Care should be taken to determine which method will be the best. This means incurring the least loss for disposal without injury to the store's reputation. The chief lesson to be learned is that markdowns should not be taken until other methods have been explored.

Avoiding slow-selling stock. The chief concern of the merchant is not to dispose of slow-selling merchandise but to buy and control his stock in such a manner that it will be sold before it becomes slow selling. The primary advantage of unit control in this connection is that an adjustment may be maintained between purchases and sales that will result in most merchandise selling within a reasonable length of time after purchase.

One store has the following policies to avoid accumulation of old stock:

1. Buying in smaller quantities, and reordering quickly. Its basic stock records and its unit controls are aids to this end.
2. Sampling new items to test them out before purchasing on a quantity basis.
3. Buying locally when it can obtain the same price as if it bought elsewhere, in order to carry a smaller initial stock and obtain quicker service on reorders.
4. Checking to see to it that all purchases made for special sales are out of the house in thirty days.

One of the reasons for the accumulation of slow-selling merchandise is the fear of taking markdowns because of the resultant lowered gross margin which endangers the year's profits. This is sometimes the case where the buyer's contract with the store calls for a fixed minimum gross margin of profit if the buyer is to earn a bonus. Although a turnover figure may also be set, this does not ensure an inventory consisting of fast-selling merchandise. To correct this difficulty, some stores find it the best policy simply to ask for a satisfactory showing. On such a basis bonuses have been paid for a cleaning up of stock inventories, when the sales and profits actually went behind.

Every time a change of buyers is made in some stores, the cost in markdowns on the old stock is tremendous, and often far in excess of actual need. Every new buyer tends to feel that a predecessor's stock is poorly selected and wishes to clear it out before he shows what he can do with his newly selected stock. Frequently, the new assortment is little better than the old from the customer's viewpoint. Without a careful system of control, slow-selling merchandise accumulates, clogs up the stock, and slows up the sales. As in an unweeded garden, the good stock is crowded out by the weeds, and the result is disastrous to all—the store, the buyer, and the salespeople.

From the customer's point of view, slow-selling merchandise is a serious obstacle to getting what is needed. Much lost time, energy, and dissatisfaction are charged to the stores on that account. Many customers are as well acquainted with stocks as are the store people. They have a bad reaction to seeing the same merchandise, unchanged, month after month, even year after year.

REVIEW QUESTIONS

1. What are two ways to increase stock-turn?
2. Name the seven ways to reduce stocks without interfering with sales.
3. What is meant by *duplicating styles*?
4. Explain *heart* and *fringe* stocks. What policy should underlie the buying of the two types?
5. Why does the attempt to balance stock and sales sometimes reduce stock-turn temporarily?
6. Which would normally offer the greater opportunity to increase stock-turn: buying more frequently or reducing the reserve supply?
7. What are the four problems in connection with slow-selling merchandise?
8. What are three criteria for classifying an item as slow-selling?
9. What is the usual system for locating in stock goods that are slow-selling?
10. What is a shortcoming of the system and what other system provides a closer control?
11. Suggest three rules for the disposal of slow-selling stock?
12. What is the value of making a list of all possible ways to dispose of slow-selling merchandise?
13. Which of the twenty-one methods listed are commonly used *instead of* a markdown? Which are used generally *in addition to* a markdown?
14. Why may an increase in price sometimes succeed in clearing out slow-selling stock?
15. What are the advantages and the disadvantages of the PM system?
16. What is meant by a tie-in sale?

17. Discuss the ethics of the four methods listed in the box on page 321 as questionable. What is meant by *sweetening up* a stock?
18. List from memory at least fifteen of the twenty-one disposal methods given.
19. How may the accumulation of slow-selling merchandise be avoided?
20. What is the relation between slow-selling disposal and the rating of buyers?

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PART FOUR

Merchandise control is a system of recording and analyzing sales and stocks for purposes of merchandising. A major consideration is to keep a balance between sales and stocks. Specifically, this section considers dollar and unit control. It ends with two chapters on the analysis and control of expenses.

PLANNING AND CONTROL

18

How to Analyze Dollar Sales and Stock Records

Merchandising is the planning involved in the marketing of goods; merchandise control is the collection and analysis of facts about sales and stocks in order that merchandising may be done intelligently. These facts must be analyzed and acted upon with two distinct goals in mind: first, to set objectives for the future; and second, to insure that actual operations are kept in line with the objectives.

Sales and stocks may be analyzed either in terms of dollar values or in terms of units or pieces of merchandise. The first is called *dollar control* and the second *unit control.*

Dollar sales and stocks may be analyzed (1) for the store as a whole; (2) for separate departments; and (3) for separate merchandise classifications. In a small store or small department of a store, records of sales (supplemented by semiannual physical inventories and perhaps by monthly book inventories) provide most of the formal control necessary to accompany the merchant's daily and detailed observation of what is and is not selling. The over-all figures make it possible to set intelligent sales objectives and to adjust the inflow of purchases to keep stocks at reasonable levels.

Where the merchandising is done by department managers or buyers, rather than by the merchant himself, department sales and stock records become necessary as a guide, especially in view of the large volume and complexity of merchandise car-

Distinction Between a Department and a Classification

In a department both merchandising and expense data for a grouping of merchandise are recorded, making it possible to calculate an operating profit for the grouping —women's shoes, for example.

In a classification some merchandising data for a grouping of merchandise are recorded, but not expenses. It is possible to calculate gross margin for each classification. (If expenses were to be charged against the gross margin of each, the classification would become a department.) In the women's shoe department, for example, the following classifications might be established opera, oxford, T-strap, strap, step-in, corrective, short, evening, and riding boots.

ried. A selling department may be defined as a grouping of allied merchandise for the purposes of (1) determining the profit for each grouping; (2) controlling buying and pricing more exactly; and (3) promoting sales more effectively. A mere physical segregation of merchandise is not enough; separate records must be kept for each grouping.

Many stores that are not commonly called department stores are, nevertheless, departmentized. A small drug store, for example, may have separate departments for prescriptions, soda fountain, and drug sundries.

Such store and departmental records of sales and stocks are best obtained by the retail method of inventory. The value of the sales is totaled daily from cash register readings and from saleschecks, and book stock figures are available as frequently as desired, since a perpetual inventory must be maintained in connection with the retail method. It is also necessary to keep records of orders placed. This is done by keeping duplicate copies of orders in a file and moving to a closed file orders that have been filled. Some stores also maintain an order register on which all orders are entered and totaled as they are placed. There is usually one buyer or manager in charge of each department but he occasionally supervises two or more departments.

Bases for Break-down of Records

Departmentizing, if properly done, assures better management and control of the various merchandise lines and more effective promotional efforts.

The departmental unit. In order to insure adequate control, the department should be small enough so that the facts about dollar sales and stocks will aid in maintaining a good balance. In a small store, a women's ready-to-wear section may be small enough to be regarded as a department unit, since the manager can be in direct contact with the sales and stocks in the various classes of ready-to-wear. But in a large store, knowledge on the part of the manager that sales of ready-to-wear in the store amount to $3 million and that stock on hand is $1 million does not give him much indication of what ought to be done about the situation. No one individual can have detailed personal knowledge of the composition of such a quantity of goods. In order to know what to buy and what to promote and how to adjust his stock investment, he must know the statistical facts in regard to smaller units—suits, coats, dresses, and so forth—any one of which can be watched by one buyer but which together are beyond the capacity of one individual to handle. The buyer needs to know how much money to spend for dresses each month, and he gets little help by knowing how much should be spent for ready-to-wear in total. The small operator, however, with his intimate knowledge of his limited ready-to-wear stock, can make practical use of his purchase allotment for ready-to-wear and distribute it with a considerable degree of accuracy over different items without more detailed statistical data. A department, then, should be mall enough for one man or woman to handle effectively.

The department should be large enough: (1) to make points f weakness stand out clearly in order to insure attention; (2)

to reduce inaccuracies; and (3) to limit expenses of record-keeping and planning so that they will not exceed the benefits derived from detailed data. If a buyer or merchandise manager is expected to watch the statistical data of an excessively great number of small units under his supervision, he is likely to analyze each hurriedly, or not at all, or become lost in a maze of figures. On the other hand, if the chief statistical emphasis is placed upon the summary figures of all the merchandise under his jurisdiction, the records have a much better chance of receiving careful attention; they high-light maladjustments among profit factors so that they cannot be overlooked. This reasoning is not an argument against more detailed record-keeping but it does suggest that records should be simple and few enough to be usable. The totals of any merchandise that is handled by one individual bring out information that is easily overlooked in studying subdivisions of the data.

Furthermore, departments that are too small lead to inaccuracies, especially in expense allocation and sometimes in the correct charging of purchases to different departments or in the correct crediting of sales. If a salesperson sells in a number of departments, errors may occur in marking the correct department number on saleschecks. Likewise, the salary expenses of the salesclerk are particularly difficult to apportion to the department in which he sells.

As to the possibility of increasing expense unduly by setting up small divisions, such a contingency will probably arise only when no use is made of the detailed information. If a department manager can use records in his actual buying or selling operations, the records are almost sure to pay for themselves, no matter how detailed they may be. The records that are too costly to maintain are those that are not used.

Some feel that a useful rule-of-thumb method of deciding whether or not to allocate expenses to a merchandise grouping is to determine whether salespeople sell entirely in one grouping or in a number of them. If it is not desirable to limit salespeople to one grouping, the problem of prorating their salaries indicates that these groupings should be classifications, not departments.

This reasoning may be exemplified in the case of a proposed tie department in men's furnishings: In men's furnishings as a whole, one buyer and a group of salespeople devote all their time to men's furnishings, a definite and readily determinable amount of advertising space is devoted to men's furnishings, and the goods occupy a definite amount of floor space. Accordingly, the amount of expense incurred by men's furnishings is readily known and it is easy to treat this grouping of merchandise as a department. Were the attempt made to set up the *ties* as a separate department, it would be difficult to determine how much of the buyer's and salespeople's salaries to charge to the ties, since they would not be handling ties exclusively. Again, the ties might not be advertised separately and might not be assigned a definite floor space. Thus it would take considerable time and effort to calculate how much of the joint expenses to charge the ties. If arbitrary methods were used, the operating profit figure for *ties* would have little significance. If the *tie* operation were large enough, however, to justify a separate salespeople, a separate buyer or assistant buyer, a specially assigned space, and separate advertising space, many expenses could be charged to it simply and directly and it could be set up as a separate department.

It is this matter of expense allocation that largely determines whether to make a certain group of merchandise into a department or into a merchandise classification within a department. If expenses can be exactly and economically charged to the merchandise grouping, it may be made a department; otherwise, it should be treated as a classification.

Departmentizing and the initial markup. In addition to the problem of having a department small and yet large enough to insure efficient management, the retail method of inventory sets up a control requirement. The markup of the different items in the department should not vary greatly; otherwise there should be good reason to believe that both high markup and low markup merchandise represented in the closing inventory are in proportion to their representation in the total merchandise handled. If the difference in the markup on the merchandise in the closing inventory varies considerably from the markup on the merchandise handled, the closing cost inventory will be either understated or overstated and profits distorted. See Chapter 15 where this matter has been discussed in detail.

Sales promotion. Better management and control are not the only reasons for departmentizing. The effect on sales is possibly of equal importance. The physical concentration of related stock makes it easier for customers to purchase. Furthermore, departmentizing focuses attention on a particular class of goods. For instance, by establishing a riding-habit department, a store can attract patronage more readily than it could if riding habits were included in the suit department. The opening of a junior department for girls who feel themselves no longer children but who are hardly "misses" is a great force in attracting their patronage; they have perhaps shied away from the children's department, but they do not feel at home in the misses' department where much of the merchandise is unsuitable. Many stores have had great success with their "sub-deb" shops. For customers interested in sports, if there are many of them, it may be desirable to open a sports department carrying dresses, coats, sweaters, hosiery, shoes, and other accessories. The ensemble idea can be expressed, and conflicting appeals or suggestions of other departments, each carrying only one of these lines, eliminated. Sometimes also, temporary or seasonal departments are established. For example, a gift shop may be opened about the middle of October and carried as a separate department only through December. One store runs a department for party favors through the fall and winter months.

Two common examples of departmentizing for sales promotion are the basement store and the de luxe departments. Basement stores have been established in many stores to cater to a lower-income group than is attracted to the upstairs store. If the upstairs store introduced lower price lines in order to cater to this cheaper trade, it would run the danger of losing its more exclusive clientele. Again, the customers that a basement store can cater to are interested primarily in merchandise values and not in service. The high service expenses of the main department would make it difficult to offer good values in the basement at lower prices.

Some basement stores feature job lots, but the tendency is in the direction of carrying regular lines. Thus, the basement store becomes a distinct store with its own distinct clientele. It obtains the advantage of the recognized store name and makes use of the same offices as the main store for its nonselling functions.

De luxe departments, on the other hand, have been established in many stores to cater to a more discriminating and higher-income group than that reached by the main store departments. Many patrons of specialty shops will not patronize regular departments of department stores because of the fear that the merchandise will become popularized too quickly. Again, they prefer to deal directly with the manager of a shop and not with ordinary salespeople. De luxe departments, each with a separate buyer and entirely divorced from the main store departments will attract them. Such a department realizes sales from a class of customers that could not be reached otherwise and affords a good talking point for publicity. It provides a high markup and often yields large profits. It acts as a proving ground for acceptance by the fashion leaders, making it possible for the buyers of the main departments to forecast more accurately.

The difficulty with such a de luxe department is to fit it into the store mechanism. Many store rules should not apply to it because it should be on the footing of a specialty shop and have a buyer-manager who is partially an artist. This type is often temperamental and should not be unduly curbed by a store system that may be desirable in the regular departments.

In conclusion, in determining whether or not to departmentize on a basis of sales promotion possibilities, the management first should consider the availability of a suitable buyer, of a suitable location, and of sufficient capital. Second, it should avoid undue duplication of existing departments. There should be a good reason for duplication, whenever it is attempted, such as convenience to the customer and greater volume growing out of a specialized appeal or out of an appeal to a new class of customers. Third, and most important, it should consider the potential demand on the part of customers for a distinct selling unit in the store that features the class of merchandise in question.

Merchandise Classifications

When the aggregate dollar sales and stock figures in stores or departments get too big for adequate control and when the store or department includes very different classes of goods, such as fishing bait and row boats in the same sporting goods store, it is desirable to keep separate dollar sales and stock records of the major subdivisions. These are usually called merchandise classifications, although they are sometimes called merchandise dissections or subdepartments. A merchandise classification may be defined as a subdivision of a store or of a selling department for which separate merchandising records are kept but to which expenses are not charged. If the separate records include sales, markdowns, inventories, and purchases, it is possible to work out gross margins or maintained markups for each classification. In some classification systems, only sales and stocks are segregated. This is of help in achieving a balance between the two but does not make it possible to calculate the gross margin in each. In the simplest classification system, only physical inventories are taken by classification and sales by classification are not obtained. Where the manager, from direct experience, has a fairly accurate idea of the relative sales in each classification, the availability of the stock data does aid in revealing overstocked and understocked conditions.

Advantages of classification control. Records and plans by classifications are important in the following uses:

(1) The insuring that stocks in each classification are in the best proportion to sales in that classification.

(2) The promotion of the classes of goods that are in particular demand.

(3) The control of markdowns. With definite information as to the type of goods on which the majority of a department's markdowns are taken, steps may be taken to realize better buying in those classifications in the future.

(4) The control of inventory shortages. By subtracting the sum of sales and markdowns in each classification from the sum of the retail inventory plus purchases, a book inventory figure may be determined and may be checked against the physical inventory in each classification. With the detailed knowledge of where shortages are occurring, it is comparatively easy to determine the causes and to take steps to overcome them.

(5) The facilitation of executive control. A study of operating results by classification quickly reveals mistakes in store management that the executives would not be aware of otherwise.

(6) Better department management. The system of classification records directs the attention of the buyer to the requirements of each portion of his stock.

(7) The setting of different initial markups for each classification. Different markups are desirable to allow for differences in markdowns and in expenses in different portions of the stock.

How to establish classifications within a store or department. There is no standard as to the number of classifications into which a small store or a department should be subdivided. A small nondepartmentized store might set up three or more. One group of stores set up 69 departments and 485 classifications, an average of 7 per department. The number ranged from a low of two classifications in a department to a high of about 70 in some furniture departments. A store with a sales volume of $1,000,000 a year may have about forty departments and 150 classifications. A specialty store of the same size could well afford 75 such dissections. Some large department stores have over 1,000 classifications.

While trade associations, particularly the National Retail Dry Goods Association, have done a great deal to standardize department groupings, so that inter-store comparisons may be made, standard classifications within the different departmental lines are not available. The nature of the classifications required varies with volume and with local demand; the decision as to what and how many classifications to set up remains a matter for individual store decision rather than for trade-wide agreement.

In deciding how to subdivide, it may be said that those goods should be classified together that have similarity in (1) initial markups; (2) turnovers; (3) markdowns (as to both quantity and causes); (4) seasonal activity; (5) style importance; (6) cash discounts; (7) cost value; (8) need of alteration; and (9) use as leaders. In regard to the last point, if certain items are frequently offered in special sales at low markups, they should be placed in separate classifications from goods that are never used as leaders. If the above factors are considered in setting up the subdivisions, the merchandise statistics obtained for each classification will accurately reflect the status of the individual items making up the classification and will allow reliable conclusions. If the merchandise units making up a classification vary greatly as to the above factors, difficulties will arise. For instance, if the markups on different items in the same classification are decidedly different, the derived cost inventory for the classification may be much too small; and if the turnovers on the different items vary considerably, the turnover figure derived for a classification may have little significance, for half the goods may be hardly moving while the other half may be moving at twice the apparent rate of turnover. Again, if the seasonal activity and style importance are different, a knowledge of the dollar stock in a classification on a particular date is not helpful. For instance, an apparently adequate stock of $6,000 at midsummer may be composed of $4,000 worth of goods that are in demand only in the spring and of only $2,000 worth in demand in summer and in early fall. The classification figures should represent homogeneous units if they are to be significant.

Classification divisions. The classifications generally follow descriptive or type divisions. For instance, the department unit in a large store may be the classification unit in a small one. One store may have a dress department with classifications for (1) women's dresses (usual prices); (2) popular-priced dresses; (3) blouses and skirts; and (4) misses' dresses. Its wash goods department may be classified as (1) cotton wash goods; (2) linens; (3) domestics; and (4) blankets, comfortables, and bedding. In larger stores, these classifications are departments. The women's dress department may be classified into woolens, silks and rayons, cottons, evening and dinner; domestics may be classified into (*a*) sheets, (*b*) pillow cases and tubing, (*c*) cotton and outing flannel, and (*d*) muslins.

A furniture store or department may be divided as follows: dining room, breakfast room, bedroom, odd bedroom pieces, post beds, day beds, upholstered furniture, individual chairs, windsor chairs, tables, bookcases, desks and "secretaries," summer furniture, occasional pieces (such as end tables, footstools, and screens), unfinished furniture, and special-order upholstered furniture. A notion department may be divided into: wardrobe accessories, findings, sanitary goods, hair goods, and sewing accessories.

Other bases for classification are size, color, price, and source. In oversize rugs it is important to keep records of sales and stocks by sizes rather than by types, such as Axminster, Wilton, Chenille, and so on. Size is also a factor in distinguishing between women's dresses, misses' dresses, and juniors' dresses, and is the chief factor in establishing a merchandise classification of dresses for stout women. Color may also be the basis of classification. For instance, a curtain department in a large store may wish to maintain a classification for colored ruffled curtains as distinct from white ruffled curtains. It may be desirable to segregate red damask from damask in other primary colors. It is particularly common to segregate men's white shirts from the rest of the stock. White hosiery and black yard-goods are other examples where one or more of a number of classifications in a department grow out of a color difference.

Price zones may become the basis of classification. In analyzing the drapery stock and sales, it may be important to make separate classifications for cretonnes under one dollar per yard and for those over one dollar. A large store did this and at the end of a few weeks found that the sales of cretonnes under one dollar amounted to $3,528, and the stock on hand was $41,786. During the same period cretonnes over one dollar brought in sales of only $698, and the stock was $45,581! The larger stock was creating less than one-fifth of the volume. A similar situation was true in tapestries: $114 worth of tapestries under $5.00 a yard were sold with a stock of $6,930, and only $33 worth over $5.00 a yard with a stock of $19,500. Three times the stock brought in one-fourth the business. The buyer had obviously purchased too much of the more expensive goods. It should be noted, however, that this study was made in July when the sales represented the outfitting of summer places. The buyer declared that he had the more expensive goods already in stock in anticipation of fall business when the more expensive cretonnes and tapestries tended to be in demand for city use; but while this fact may have partly justified his purchases, the analysis revealed at least that the more expensive goods were brought into stock too soon.

Classification according to price lines rather than zones is well exemplified in shoes. One store, for instance, maintains four distinct shoe departments: one carries shoes only at $3.96, another at $5.94, another at $9.34, and a fourth, all shoes over $10.

Source of supply may be the basis of classifications of branded goods. It may be desirable to have one classification for Fashion Park suits in the men's clothing store, or for Gossard corsets in the corset shop. Some drug and toilet articles are grouped by type rather than source, although it is common to group the products of certain manufacturers, such as Coty and Rubinstein. Stores doing a large import business have a separate classification for their foreign merchandise.

Some classification schemes use two or more bases of division simultaneously. For instance, one store divides its dress goods department into fifty-one classifications; some are differentiated by color and others by material.

Systems of Classification Control

Once the classification divisions have been determined, the management must choose between one of two distinct methods of compiling the facts: the perpetual and periodic inventory methods. The periodic inventory method is sometimes called the sales-resultant method.

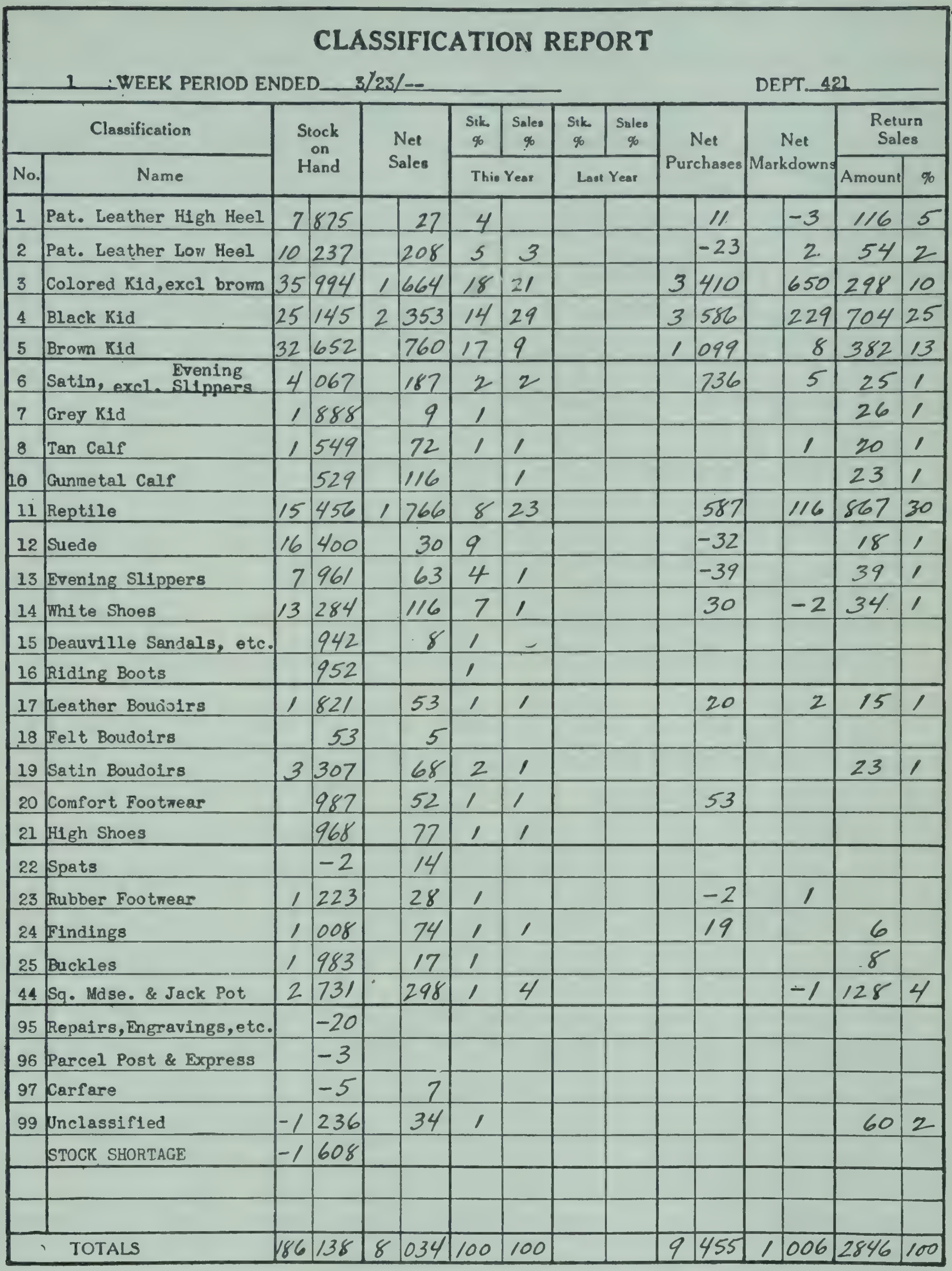
Perpetual inventory method. Under the perpetual inventory method, a complete retail method of inventory may be operated for each classification, or the system may stop short with an analysis of sales and inventories. Classification numbers or letters are marked on each salescheck, and sales are analyzed by classification. Invoices are similarly marked with classification numbers (preferably a separate invoice is required for each classification), and inventories and markdowns are also classified. Thus a separate initial markup and a separate gross margin may be determined for each classification. From the standpoint of records, such a classification would differ from a separate department only in the fact that expenses would not be allocated to it.

A simpler variation of this plan is to classify saleschecks, markdown records, and invoices and to maintain a running record by classification of stock on hand as above, but to compute no separate markup for each classification. Under this method the classification records are for the purpose of analyzing sales and stocks and not of determining gross margin by these divisions. If a merchant decides to use the perpetual inventory method of classification control, it would seem desirable to apply the retail method of inventory to each classification, because of the additional information regarding profits that can be had at very little additional expense.

Figure 23 is used in a store where sales as well as stocks, purchases, and markdowns are analyzed by classification. It is made out weekly. The minus figures in stock and purchase columns show excess of returns and in the markdown column excess of markdown cancellations.

In accumulating information in regard to purchases by classifications, it is necessary to mark classification numbers not only on each invoice but also on return memoranda and on other charges against vendors so that net purchase figures may be obtained. Merchandise transfers, both into and out of the classification, must be recorded. Likewise, in the classifying of sales, the forms made out for the returns from customers or allowances to customers should be marked with classification symbols so that net sales figures may be obtained.

The chief problem in the perpetual inventory type of classification control is to obtain correct sales information by classification. It is essential that each price ticket carry the classification letter or number and that it appear in a definite place on the ticket. Salespeople should be carefully instructed to record the classification in front of each item appearing on the salescheck. The best plan is to provide a salescheck that has a separate column for the classification number. This acts as a reminder to the salespeople and assists the clerks in the office to avoid a failure to classify every check emanating from those departments that are controlled on that basis. For cash register sales, there are several possibilities: one is to have the salesperson write the classification number on the stub of the cash register receipt; the second is to have the salesperson put the classification on a special tally kept in the salesbook; a third is to use



CLASSIFICATION REPORT

1 WEEK PERIOD ENDED 3/23/-- DEPT. 421

Classification No.	Classification Name	Stock on Hand	Net Sales	Stk. % This Year	Sales % This Year	Stk. % Last Year	Sales % Last Year	Net Purchases	Net Markdowns	Return Sales Amount	Return Sales %
1	Pat. Leather High Heel	7 875	27	4				11	-3	116	5
2	Pat. Leather Low Heel	10 237	208	5	3			-23	2	54	2
3	Colored Kid, excl brown	35 994	1 664	18	21			3 410	650	298	10
4	Black Kid	25 145	2 353	14	29			3 586	229	704	25
5	Brown Kid	32 652	760	17	9			1 099	8	382	13
6	Satin, excl. Evening Slippers	4 067	187	2	2			736	5	25	1
7	Grey Kid	1 888	9	1						26	1
8	Tan Calf	1 549	72	1	1				1	20	1
10	Gunmetal Calf	529	116		1					23	1
11	Reptile	15 456	1 766	8	23			587	116	867	30
12	Suede	16 400	30	9				-32		18	1
13	Evening Slippers	7 961	63	4	1			-39		39	1
14	White Shoes	13 284	116	7	1			30	-2	34	1
15	Deauville Sandals, etc.	942	8	1							
16	Riding Boots	952		1							
17	Leather Boudoirs	1 821	53	1	1			20	2	15	1
18	Felt Boudoirs	53	5								
19	Satin Boudoirs	3 307	68	2	1					23	1
20	Comfort Footwear	987	52	1	1			53			
21	High Shoes	968	77	1	1						
22	Spats	-2	14								
23	Rubber Footwear	1 223	28	1				-2	1		
24	Findings	1 008	74	1	1			19		6	
25	Buckles	1 983	17	1						8	
44	Sq. Mdse. & Jack Pot	2 731	298	1	4				-1	128	4
95	Repairs, Engravings, etc.	-20									
96	Parcel Post & Express	-3									
97	Carfare	-5	7								
99	Unclassified	-1 236	34	1						60	2
	STOCK SHORTAGE	-1 608									
	TOTALS	186 138	8 034	100	100			9 455	1 006	2846	100

FIGURE 23. Classification Report.

a cash register equipped with additional keys to record and total sales in each classification; and a fourth is to record the number on the cash register detail tape. The second and third methods have proven preferable to the first. Where each salesperson keeps a tally a simple form with a column for each classification is provided. As sales are made, their amounts are entered in the proper classification columns. However, unless there is careful supervision, this plan is likely to be inaccurate.

Periodic inventory method. In contrast to the method described above, where inventory is derived from sales and purchase data, the periodic inventory method derives sales from inventory and purchase data. Retail inventories, retail purchases, and markdowns may be analyzed for each classification, and sales derived, by a method exemplified as follows:

February 1, retail stock on hand in a classification	$5,000
February 1 to July 1, retail purchases	10,000
Total merchandise handled	$15,000
July 1, retail stock on hand	6,000
February 1 to July 1, sales and reductions	$9,000
February 1 to July 1, markdowns	1,000
Derived sales (including shortages)	$8,000

If the average rate of shortages for the store or department is known, the derived sales may be divided by 100 per cent plus the shortage percentage, to determine the estimated net sales. In this instance, if the actual shortages determined for the store as a whole are 2 per cent of net sales, $8,000 may be divided by 102 per cent to give estimated sales of $7,843 on the theory that the shortages are probably evenly distributed over all the classifications. In practice, an adjustment for shortages is not necessary in computing sales by classification since the derived sales figures of all would include the same percentage of shortage. Where gross profit is to be calculated for each class, however, shortages should be considered.

An analysis for a men's furnishings store that disregards shortages appears in Figure 24.

Retail inventories, cost and retail purchases, and markdowns may be analyzed by classification, and both sales and maintained markup derived for each classification, as shown on page 350.

Men's Furnishings—Period: July 1 to July 31

		Classifications								
	Total	1	2	3	4	5	6	7	8	9
Inventory, July 1	$5,000	$500	$350	$1,150	$750	$250	$1,000	$500	$100	$400
Purchases and transfers in	2,000	100	200	300	100	500	100	100	500	100
	7,000	600	550	1,450	850	750	1,100	600	600	500
Less inventory July 31	4,000	400	250	1,200	600	220	700	430	100	100
Sales and markdowns	3,000	200	300	250	250	530	400	170	500	400
Markdowns	300	50	40	...	20	30	100	25	...	35
Sales ($)	2,700	150	260	250	230	500	300	145	500	365
Sales (%)	100	5.5	9.6	9.3	8.5	18.5	11.1	5.4	18.5	13.6
Average inventory	100%	10.0%	6.7%	26.1%	15.0%	5.2%	18.8%	10.4%	2.2%	5.6%

FIGURE 24. Classification Analysis.

	Cost	*Retail*	*Percentage*
February 1, stock on hand	$3,000	$ 5,000	
February 1 to July 31, purchases	6,000	10,000	
Total stock	$9,000	$15,000	40.0
July 31, retail stock on hand		6,000	
July 31, cost stock on hand ($6,000 × 60%)	3,600		
February 1 to July 31, sales and reductions		$ 9,000	
February 1 to July 31, markdowns		1,000	12.8
Sales and shortages		$ 8,000	102.0
Estimated sales ($8,000 ÷ 1.02)		7,843	100.0
Gross cost of merchandise sold	5,400		
Maintained markup	2,443		31.1

Thus, except for a possible error in the shortage estimate, the gross margin figure for each classification may be determined without analyzing sales by classification. Once the system is in operation, the stock on hand at cost at the beginning of the period is found from the retail by applying the initial markup for the preceding period then ending. When the system is being first introduced into a store or department already on the retail method, the cost may be determined from a study of invoices on hand or (for internal control purposes solely as distinct from official income tax reports) by assuming that the initial markup of the store or department as a whole applies to each classification. The actual differences in markup will come to light as the purchases are accumulated at both cost and retail. If the department is on the cost system of inventory, the cost price appears in code on each price ticket, so that there is no problem in obtaining the opening cost inventory. The same type of analysis as that outlined above may be performed with a monthly inventory rather than with a six-month inventory. Thus, sales and markup may be derived at more frequent intervals.

It will be noted that the classification data based on periodic inventories require that only three records by classification be kept: (1) inventories; (2) purchases (including returns and transfers); and (3) markdowns. Physical inventories should be taken whether or not a classification control is kept. Classifying the goods, and listing each classification on a separate group of sheets, add little to the cost of inventory taking. In the case of purchases, it does require slightly more clerical work to extend invoice amounts charged to each department to classification columns, however, and it may require a larger number of invoices from vendors if it is desired to keep each classification on a separate bill. As for markdowns, all that is required is that the buyer indicate the classification number, as well as the department number, on each markdown requisition, and that the markdowns be totaled by these divisions.

From these three records, inventories, purchases, and markdowns, the following valuable information may be obtained:

1. The sales in each classification and their ratio to the total sales of the store or department.
2. The average stocks (average of opening and closing inventories) in each classification and their ratio to total stocks; also the ratio of opening and closing stocks to total stocks.
3. The stock turnover in each classification.
4. The initial markup in each classification.
5. The percentage of markdowns in each classification.
6. The maintained markup in each classification.

With such a variety of information, the merchandising executive has before him the necessary data for laying plans and for taking action.

Comparison of perpetual and periodic inventory. A comparison of the two fundamental methods of obtaining merchandise statistics by classification indicates that the perpetual inventory control method has the following advantages:

1. It readily provides a daily or weekly, and cumulative, record of sales by classification.
2. It provides stock figures by classification as often as they are desired, by subtracting sales and markdowns from the total merchandise handled.

3. By providing continual information about sales and stocks, it makes it possible to take action as soon as a maladjustment develops, rather than at the end of a season or of a month, when it may be too late to remedy the situation.

On the other hand, the perpetual inventory system has the disadvantage of requiring a sales analysis by classification. This is comparatively expensive, and there are added dangers of error in classifying. It is particularly difficult to insure that salespeople will put the right classification numbers on saleschecks and that returns from customers will be correctly classified. Because of these difficulties, one large store has concluded that more than fifteen classifications per department are generally undesirable where a perpetual inventory is maintained.

Chief advantage of the periodic inventory system is its cheapness and simplicity. It provides practically all the information

Example of Periodic Classification Analysis

A grocer kept no breakdown of his sales by department or classification but when he took inventory at cost he did accumulate subtotals for each major classification in his store. He also sorted and accumulated his invoices by classification.

Thus, he found that his canned goods inventory at cost was \$6,000 at the beginning of a six-month season and \$7,500 at the end. His total store inventory was \$15,000 at the beginning and \$19,000 at the end. His cost purchases of canned goods totaled \$45,000. His store sales for the same period were \$125,000 and his cost of sales was \$100,000. With this information the merchant made the following calculations:

Sales of canned goods at cost: $\$6{,}000 + \$45{,}000 - \$7{,}500 = \$43{,}500$

Per cent of total volume canned goods: $\dfrac{\$43{,}500}{\$100{,}000} = 43.5\%$

Per cent of total stock canned goods: $\dfrac{\frac{1}{2}(\$6{,}000 + \$7{,}500)}{\frac{1}{2}(\$15{,}000 + \$19{,}000)} = \dfrac{\$6{,}750}{\$17{,}000} = 39.7\%$

Stock-turn of canned goods: $\dfrac{\$43{,}500}{\$6{,}750} = 6.4$

Stock-turn of whole store: $\dfrac{\$100{,}000}{\$17{,}000} = 5.9$

given by the perpetual system, at less frequent intervals. The infrequency of the inventories, and thus of the reports, constitutes a danger. A six-month classification report will be a post mortem and will fail to disclose unbalanced stocks, low markups, and large markdown percentages soon enough to permit prompt corrective action. However, a six-month report helps in laying the plans for the corresponding season of the next year. Furthermore, in stores or departments such as those in the apparel group, where monthly inventories can be conveniently taken, the information is up to date and allows prompt action. One large store has found that the perpetual inventory type of classification control costs about .1 per cent to .2 per cent of sales; but another, using tabulating machinery, operates at a cost of only .014 per cent of the sales of the departments so controlled. The elements included in cost probably vary in the two stores. On the other hand, a semiannual periodic inventory would probably cost considerably less.

In conclusion, it would seem that when a perpetual inventory system and daily sales analysis can be maintained accurately and at a low cost, it should be adopted. When the cost is high and the equipment not available, the periodic method may be used. Either one represents a decided advance over the general practice of mere departmental control.

Tabulating machinery for classification analysis. Whether a periodic inventory or a perpetual inventory system of classification control is used, many stores have found automatic sorting and tabulating machines of great value. While these are used primarily for the regular sales audit, they may be used to obtain classification and unit control totals quickly with a minimum of effort. For large stores this method of tabulating is often cheaper and more accurate than the hand or manual system. Also, detailed analyses are readily made that would not be attempted by manual sorting. See the classification analysis in Table VI that was quickly done by means of machine tabulation. A brief outline of these operations is presented in Chapter 21.

TABLE VI

ANALYSIS OF A HOSIERY STOCK BY CLASSIFICATION, PRICE, AND SEASON

(As done with Tabulating Equipment)

Classification	*Price*	*Slow (3 to 6 mos.)*		*Prior (6 to 9 mos.)*		*Old (9 mos. and over)*		*Salvage*		*Total*	
		Pieces	*$*	*Pieces*	*$*	*Pieces*	*$*	*Pieces*	*$*	*Pieces*	*$*
Hose— Service Weight	$ .25	236	$ 59.00							236	$ 59.00
	.48	1	.48							1	.48
	.59	1	.59							1	.59
	.69	16	11.04			204	$ 104.76			220	115.80
	.97	650	630.50							650	630.50
	1.00	4,895	4,895.00	497	$497.00					5,392	5,392.00
	1.19	217	257.03							217	257.03
	1.29	295	380.55	51	65.79					346	446.34
	1.35	14	18.90	30	40.50					44	59.40
	1.50	73	109.50							73	109.50
	1.59	716	1,138.44	63	100.17	33	52.47	1	1.59	813	1,292.67
	1.65	57	94.05							57	94.05
	1.85	159	294.15							159	294.15
	1.95	526	1,025.70			4	7.80			530	1,033.50
	2.00	150	300.00	6	12.00	1	2.00			157	314.00
	2.50	110	275.00	80	200.00	47	117.50			237	592.50
	2.48			3	7.44	326	808.48			329	815.92
		8,116	$9,436.83	730	$922.90	615	$1,129.01	1	$1.59	9,462	$11,543.43
Sheer	.69	6	$ 4.14							6	$ 4.14
	1.00	104	104.00							104	104.00
	1.25	398	497.50							398	497.50
	1.35	3,739	5,047.25	69	$ 93.15	2	$ 2.70	8	$10.80	3,818	5,154.30
	1.59	1,617	2,570.83			29	46.11			1,646	2,616.81

REVIEW QUESTIONS

1. What does *merchandise control* mean? Distinguish between dollar and unit control.
2. In what three merchandise groupings may dollar sales and stocks be analyzed?
3. Distinguish carefully between a selling department and a merchandise classification.
4. What are the three values gained from setting up departmental records?
5. The department unit should be small enough to accomplish what ends?
6. The department unit should be large enough to accomplish what ends?
7. What is a rule-of-thumb guide in deciding how far to go in departmentizing?
8. Why does the initial markup have to be considered in departmentizing?
9. Why is sales promotion a factor in departmentizing? Name some departments set up mainly for promotional purposes.
10. What is a deluxe department?
11. What records would be segregated in the simplest type of classification control? In the most complete type?
12. What are the advantages of classification control?
13. Name eight different bases that may be used in setting up merchandise classifications. Give an example of the use of each basis.
14. Why should the merchandise in a classification be homogeneous?
15. What are the two systems of classification control?
16. What records must be marked with the classification symbol under a perpetual inventory system of control?
17. What are three ways to obtain sales information by classification?
18. Explain how to derive sales under the periodic inventory method of control.
19. By means of an example, show how it is possible to obtain maintained markup by the periodic inventory method.
20. What are the three basic records used in the periodic inventory method?
21. What six types of information can be produced from the above three basic records?
22. What are the chief advantages of the perpetual inventory method of classification control? Its chief disadvantages?

23. What is the chief advantage of the physical inventory method of classification control? Its chief disadvantages?

24. How may tabulating machinery be used in connection with classification control?

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19

How to Plan Sales and Markdowns

Once the data of past operations is available for a store, a department, or a merchandise classification, it becomes possible to budget operations ahead. The major control is one of purchases, and the system is called an open-to-buy control. It is based upon what is called a six months' merchandise plan. Merchandise planning is the attempt to set, in advance, goals for each of the major gross margin factors—sales, reductions, inventories, purchases, and markups—so that the largest profits possible consistent with good-will building may be realized.

The stores that have been successful for many years are those that have set for themselves definite goals of achievement. These goals receive tangible expression in the merchandise plan. Planning maps out future business; it provides executives with a yardstick against which to check actual operations, and it assists in co-ordinating all branches of the business so that all can play their appointed parts in the realization of sales and profit goals.

It is true that a store management may, without planning, sell all it can each day; it may obtain as high a markup as seems possible, and it may attempt to keep stocks and purchases balanced to actual sales. But if it has no objective for each of these profit factors, it will have difficulty in keeping them all in balance, and the lack of definite goals is a psychological disadvantage that hinders the management from doing its best.

Again, since purchases must be made and stock quantities set in view of future sales, any control that considers sales-to-date alone cannot possibly result in scientific buying and adjustment of stocks.

The Merchandising Plan

The merchandising plan, the basis for dollar control (see Figure 25) is generally made out for each department or classification of goods or for the store as a whole if the store is small. The plan usually covers a six-month period and is broken down into monthly or weekly subdivisions. For apparel, the spring season period ordinarily runs from February 1 to July 31, and the fall season from August 1 to January 31 next. February 1 and August 1 are better dividing points than January 1 and July 1 because stocks are generally lower at these times and because the transitions from winter to spring goods and from summer to fall goods take place at the former dates respectively.

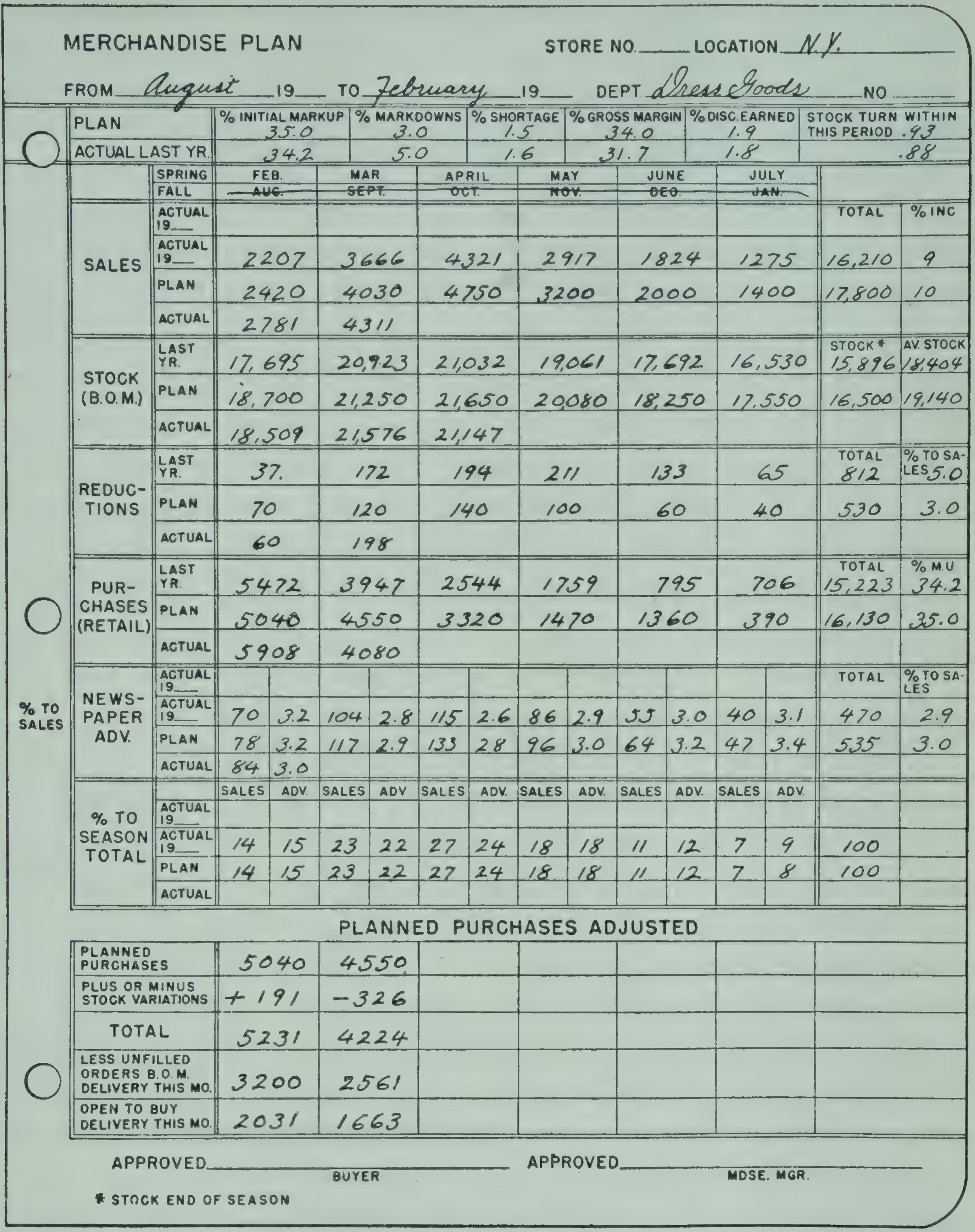
While there are many minor variations in forms, the three essential items that are planned monthly or weekly are *sales, stocks, and purchases.* Sales and stocks have to be forecast after a careful consideration of many factors, but the purchases may be derived from the formula:

Stock at the end + Sales — Stock at beginning.

In department stores and elsewhere where markdowns and shortages are large, it is desirable to plan *reductions* as well as sales and stocks.[1] The purchase formula thus reads: Planned stock at retail at the end + Planned sales + Planned reduc-

---

[1] Some stores do plan reductions but do not make use of the planned figure in the purchase formula. Elimination of planned reductions from the calculation makes planned purchases smaller. This is justified on two grounds: (1) that purchases should not be increased until the markdowns are actually taken and not in anticipation of markdowns; and (2) that the merchant assigning purchase limits to buyers should keep some of the allotment in reserve to meet last minute needs. If goods can be obtained into stock at once upon order, these arguments have considerable weight, but where some time must be allowed for delivery, stocks would always be lower than intended.



MERCHANDISE PLAN STORE NO.____ LOCATION N.Y.

FROM August 19__ TO February 19__ DEPT. Dress Goods NO____

	% INITIAL MARKUP	% MARKDOWNS	% SHORTAGE	% GROSS MARGIN	% DISC. EARNED	STOCK TURN WITHIN THIS PERIOD
PLAN	35.0	3.0	1.5	34.0	1.9	.93
ACTUAL LAST YR.	34.2	5.0	1.6	31.7	1.8	.88

	SPRING	FEB.	MAR	APRIL	MAY	JUNE	JULY		
	FALL	~~AUG.~~	~~SEPT.~~	~~OCT.~~	~~NOV.~~	~~DEC.~~	~~JAN.~~		
SALES	ACTUAL 19__							TOTAL	% INC
	ACTUAL 19__	2207	3666	4321	2917	1824	1275	16,210	9
	PLAN	2420	4030	4750	3200	2000	1400	17,800	10
	ACTUAL	2781	4311						
STOCK (B.O.M.)	LAST YR.	17,695	20,923	21,032	19,061	17,692	16,530	STOCK* 15,896	AV. STOCK 18,404
	PLAN	18,700	21,250	21,650	20,080	18,250	17,550	16,500	19,140
	ACTUAL	18,509	21,576	21,147					
REDUCTIONS	LAST YR.	37.	172	194	211	133	65	TOTAL 812	% TO SALES 5.0
	PLAN	70	120	140	100	60	40	530	3.0
	ACTUAL	60	198						
PURCHASES (RETAIL)	LAST YR.	5472	3947	2544	1759	795	706	TOTAL 15,223	% M.U 34.2
	PLAN	5040	4550	3320	1470	1360	390	16,130	35.0
	ACTUAL	5908	4080						

% TO SALES		FEB.		MAR		APRIL		MAY		JUNE		JULY			
NEWSPAPER ADV.	ACTUAL 19__													TOTAL	% TO SALES
	ACTUAL 19__	70	3.2	104	2.8	115	2.6	86	2.9	55	3.0	40	3.1	470	2.9
	PLAN	78	3.2	117	2.9	133	28	96	3.0	64	3.2	47	3.4	535	3.0
	ACTUAL	84	3.0												
% TO SEASON TOTAL		SALES	ADV.	SALES	ADV	SALES	ADV.	SALES	ADV.	SALES	ADV.	SALES	ADV.		
	ACTUAL 19__														
	ACTUAL 19__	14	15	23	22	27	24	18	18	11	12	7	9	100	
	PLAN	14	15	23	22	27	24	18	18	11	12	7	8	100	
	ACTUAL														

PLANNED PURCHASES ADJUSTED

PLANNED PURCHASES	5040	4550					
PLUS OR MINUS STOCK VARIATIONS	+ 191	− 326					
TOTAL	5231	4224					
LESS UNFILLED ORDERS B.O.M. DELIVERY THIS MO.	3200	2561					
OPEN TO BUY DELIVERY THIS MO.	2031	1663					

APPROVED____________ BUYER APPROVED____________ MDSE. MGR.

* STOCK END OF SEASON

FIGURE 25. Season Merchandise Plan.

tions — Stock at retail at the beginning. This may be transposed to give:

Planned purchases at retail = Planned sales + Planned reduc-

$$\text{tions}\left\}\begin{array}{l}+\ \text{Increase in stock during period}\\ \qquad\qquad\text{or}\\ -\ \text{Decrease in stock during period}\end{array}\right.$$

For example, sales of \$50,000 and reductions of \$2,000 may be planned for December. The retail stock planned for December 1 may be \$100,000 and for January 1 next \$80,000, a decrease of \$20,000. The planned retail purchases, then, are:

$$\$50{,}000 + \$2{,}000 - \$20{,}000 = \$32{,}000.$$

Planned reductions, composed of markdowns and shortages, are included because they reduce the value of the retail stock, even as sales do. Since the stock plans are made in terms of dollar value rather than of units of merchandise, retail purchases are necessary to restore value of stock lost by both sales and reductions. From an angle of physical stock requirements, too, it should be noted that markdowns reduce the assortment of fresh merchandise at original retail prices and that such assortments must be kept up. Were reductions to be omitted in the planning of *purchases,* as indicated in footnote 1, actual retail stocks will be smaller than planned at the end of each monthly or weekly control period.

While *sales, stocks, reductions* and *purchases* are the only merchandising items that require monthly or weekly planning, certain seasonal (six-month) standards should be set. The most important of these is the initial markup per cent. A season goal should be set [2] and the cumulative markup actually obtained on purchases checked weekly against the planned figure. It is sometimes desirable to set in advance a separate markup goal for each month, but most stores find the season's figure sufficient. When both markup and reductions are planned, gross margin need not appear as a separate goal, for it is considered in setting the markup. Other seasonal goals that may advantageously be planned are *cash discounts,* as a percentage both of cost purchases and of retail sales, *alteration and workroom costs,* and *returns* from customers. Season stock-turn is often a planned figure, but must be correlated with the monthly or weekly stock plans. It is often derived from the weekly stock plans.

Other merchandising ratios that may be planned ahead are:

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[2] See Chapter 7 for method of setting this goal.

sales per square foot, number of transactions, the average sale, returns to vendors, foreign purchases as distinguished from domestic purchases, and rate of transportation charges to purchases. While these relationships are recognized as important for analysis, most stores do not find it necessary to set specific planned figures. Rather they determine the actual figures periodically and compare them with previous performances or outside standards available, to see where improvement can be made. Figure 26 gives an example of such outside standards as are publically available. Some groups of stores exchange such data privately, reporting actual performance instead of averages.

Frequently, the merchandise plan contains space for certain expense items that are particularly controllable by the buyer and that bear a close relation to the planned sales of the department. The chief of these items are *selling salaries* and *advertising*. It is common practice to plan these expenses in advance by months. There is a tendency, however, to refrain from allotting to each buyer a certain amount each month to spend on advertising, because an allotment has frequently led to careless spending of the appropriation. Some leading stores are finding it wise to allot each month a certain amount for advertising to each merchandise division, or group of related departments. This is then used in the promotion of whatever merchandise seems to offer the best opportunity for large sales volume at a reasonable markup. Thus, no department manager is placed in the position of having money to spend before he knows what he wants to promote. Rather each must—in advance of each month—request funds for the promotion of specific goods that he believes will yield successful results. The advertising appropriation is thus used where it will do the most good, and buyers are forced to plan promotions before they are allotted funds.

Sales Planning

The life line. As a background for sales planning, it is important to recognize the "age" of the store. The normal life

1948 COMPARATIVE ANALYSIS OF OPERATING RESULTS OF DEPARTMENT AND SPECIALTY STORES

With Annual Sales Over One Million Dollars for Selected Departments and Functions

Dept. No.	DEPARTMENT		Cumulative Markon %	Markdowns (at retail) % To Sales	Gross Margin % To Sales	Sales % To Last Year	Average Gross Sale For Year $	Returns % To Gross Sales	Number of Stock Turns	Newspaper Costs % To Sales	Salespeople's Salaries % To Sales
34	Millinery	Department Stores	47.8	9.8	45.0	102.	6.66	5.5	10.3	2.7	8.9
		Specialty Stores	48.0	7.1	46.2	105.	10.65	8.0	9.3	3.6	8.3
36	Corsets and Brassieres	Department Stores	43.0	3.9	44.5	101.	5.49	6.2	3.8	1.6	6.5
		Specialty Stores	43.4	4.3	44.9	96.	6.87	7.5	3.2	3.0	6.9
37-W	Women's Hosiery	Department Stores	38.7	4.6	35.3	103.	2.76	2.1	6.3	1.3	5.1
		Specialty Stores	39.3	5.2	35.5	99.	3.44	3.3	5.3	2.4	5.8
39	Silk and Muslin Underwear and Slips	Department Stores	36.8	5.2	38.0	103.	5.59	8.0	4.9	2.0	5.4
		Specialty Stores	37.8	5.3	38.9	100.	7.03	11.0	4.3	3.3	6.0
47-W	Women's Shoes	Department Stores	40.8	10.1	37.1	98.	9.41	10.5	2.8	2.4	8.8
		Specialty Stores	41.7	10.3	39.0	96.	12.62	11.9	3.0	3.1	8.9
51-C	Women's and Misses' Coats	Department Stores	38.8	8.6	37.4	127.	47.59	13.1	8.8	2.7	4.3
		Specialty Stores	39.0	8.8	38.3	120.	62.72	15.5	7.7	2.7	4.6
51-S	Women's and Misses' Suits	Department Stores	39.2	11.5	34.9	104.	41.80	13.1	5.9	3.1	4.7
		Specialty Stores	39.5	8.5	37.7	108.	51.68	14.6	5.7	2.9	4.4
52-C	Junior Miss Coats and Suits	Department Stores	38.9	11.0	35.7	118.	35.34	11.0	7.3	2.4	4.8
		Specialty Stores	38.8	6.8	38.7	116.	45.83	12.8	7.9	3.3	4.7
52-D	Junior Miss Dresses	Department Stores	39.1	12.8	35.0	109.	14.46	11.4	8.5	3.4	5.4
		Specialty Stores	40.1	9.3	38.4	108.	18.12	14.8	9.1	3.5	5.7
53-I	Women's and Misses' Inexpensive Dresses	Department Stores	38.4	10.0	36.1	115.	12.70	11.8	10.0	3.1	5.7
		Specialty Stores	39.8	8.8	38.2	109.	17.27	17.1	7.5	3.9	5.7
53-W	Women's and Misses' Better Dresses	Department Stores	40.7	17.4	33.1	103.	25.29	13.4	5.9	3.2	5.9
		Specialty Stores	41.5	12.7	36.0	101.	36.27	15.2	6.4	3.4	6.1
54	Blouses, Skirts and Sportswear	Department Stores	38.2	9.9	36.4	113.	7.63	11.5	5.9	2.8	6.1
		Specialty Stores	39.2	9.0	38.4	111.	11.00	15.6	5.4	4.2	6.2
55	Girls' Wear and Teen-Age Apparel	Department Stores	37.7	10.8	35.1	107.	6.90	8.7	5.0	3.0	6.2
		Specialty Stores	38.3	9.0	36.8	105.	8.45	13.5	4.6	3.9	7.1
59	Furs	Department Stores	33.3	15.1	27.3	74.	185.17	15.5	2.4	4.4	4.4
		Specialty Stores	33.5	14.1	28.2	77.	304.44	14.5	2.5	4.5	3.8
150	Coats, Suits and Dresses	Department Stores	34.4	8.3	33.3	122.	12.68	8.7	9.2	3.1	5.1
		Specialty Stores	37.0	6.9	37.0	117.	18.46	11.2	8.1	3.2	4.6

FIGURE 26. Typical Operating Ratios.

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a *Merchandising and Operating Results of Department and Specialty Stores*, Controllers' Congress, National Retail Dry Goods Association.

history of a business concern from a sales standpoint resembles that depicted in Figure 27. After a period of uncertainty in early infancy is survived (a), sales are likely to increase for a time at about the same *rate* each year (b), they flatten out into an upward straight-line trend (c), they just hold their own for a few years (d), there is a sharp decline (e), this will lead to abandonment of the business (f), unless there is a radical revision in policies, a complete reorganization that will allow a revival of business, and the beginning of a new cycle of business life (g). Cyclical fluctuations, not depicted, will of course also occur, caused by changes in the price level and by recurring periods of depression and prosperity. The secular trend depicted covers a number of complete cycles. It represents the underlying long-time tendency (represented by the b, c, d, and e sections in Figure 27) to grow or decline. It is independent of the short-time tendencies of expansion and recession.

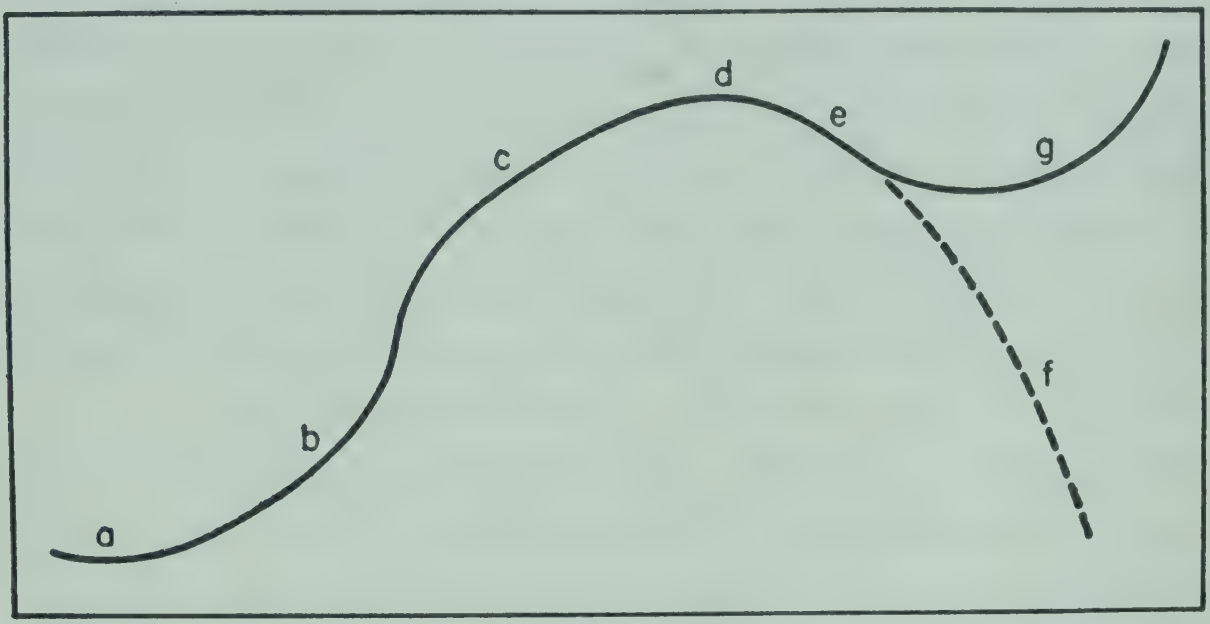

FIGURE 27. Life History of a Business.

The short-term forecast. Three types of sales forecasts are possible: the short, long, and intermediate. The short-term forecast attempts to estimate sales a few weeks ahead. This is satisfactory as a guide to the control of purchases that need be ordered only a few weeks before delivery is needed; but it would be unsatisfactory in the case of merchandise that has to be ordered a good many months ahead. It is also not suited for making out a six-month merchandise plan. For example, the plan for February through July is commonly made the preceding November and the plan for August through January the preceding June.

In making the short-term forecast, it is not necessary to study more than the sales of the past few weeks, in comparison with last year. For example, if sales during the past four weeks were 10 per cent ahead of the previous year, it is likely that the sales for the next few weeks will also be about 10 per cent above the corresponding period last year—provided, of course, that adjustments are made for any abnormal weather condition last year or expected this year and, for any change in promotional emphasis, including changes in the date of Easter.

For seasonal merchandise, not subject to rapid fashion change, one of the best methods of forecasting is based on cumulative percentages of total season's business done each week of the season. Mail-order retailers, in particular, find it useful to review the sales of each item advertised in the semiannual catalog, determining the cumulative percentages sold each week. For example, 1,000 of one item may have sold in six months, with 2 units the very first week of the catalog season, 10 units the second week, 20 units the third week, 25 units the fourth week, 40 units the fifth week, 53 units the sixth week, 50 units the seventh week, and so on. Thus, the cumulative weekly sales are:

1st week	*2nd week*	*3rd week*	*4th week*	*5th week*	*6th week*	*7th week et cetera*
0.2%	1.2%	3.2%	5.7%	9.7%	15%	20%

During the first three weeks of next season, the sales of an identical or very similar style may be 40. This quantity is then set as 3.2 per cent to estimate the probable season's sales: 40 ÷ 3.2% = 1250.

To forecast the sales for the coming three weeks, for example, the cumulative percentage to date (3.2 per cent) is subtracted from the cumulative percentage for the first six weeks (15 per cent), yielding 11.8 per cent. Thus, the probable sales for the three weeks ahead are 11.8 per cent of the estimated season's sales of 1250. This is 148. Of course, the forecast may be made for a period shorter or longer than three weeks, depending upon how far ahead of sales goods have to be ordered.

Every week, the calculation may be repeated with actual sales providing the necessary correction. At the end of the fourth week in the example above, for instance, the cumulative sales may be 68. This is set equal to 5.7 per cent of the season's total, giving a revised season estimate of 1193. The cumulative sales percentage for 7 weeks is 20 per cent. Twenty per cent — 5.7 per cent = 14.3 per cent, the percentage of the season's business that should occur in the next three weeks. And 14.3 per cent of 1193 is 171, the estimated sales for the fifth through seventh weeks inclusive.[3]

The long-term trend. As a basis for expansion of physical plant and other large fixed capital investment, it is necessary to estimate the sales level likely to be reached perhaps five years hence. To do this, it is necessary to look many years into the past. It is desirable to study and plot the sales over a number of business cycles and to determine the secular trend. Due to difficulty in perceiving the price level in the future, it is well to make this forecast in terms of transactions or of physical volume.

Figure 28 shows the sales of a women's specialty store since 1926. Since inflationary and deflationary forces had obviously been disturbing factors, the sales were corrected for price by dividing by a retail price index (1935–1939 = 100), yielding the physical volume trend[4] depicted by the heavy line. This line until 1942 reveals a fairly regular straight line trend, which was calculated by the line of least squares. By projecting this into the future, and disregarding the abnormal war and postwar sales it would seem that sales in terms of the 1935–39 price level might be expected to reach a level of over $218,000[5] by 1953. The stage of the business cycle at the particular time might result in considerably higher or lower sales in terms of then existing prices, but the figure is most helpful in deciding what physical needs should be provided for. The optimist may feel that the years since 1942 represent a new era of high level activity which will be maintained with minor corrections. But the trend during the fifteen preceding years and its projection will at least exercise a sobering influence on management; it will be reconciled to a considerable dollar sales decline from postwar peaks.

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[3] How such forecasts may be used in merchandise planning is explained in Chapter 21.

[4] When such analysis is made in a store, it would be better to plot and project the number of transactions rather than to calculate physical volume by means of a price index that may not measure price changes in the store in question.

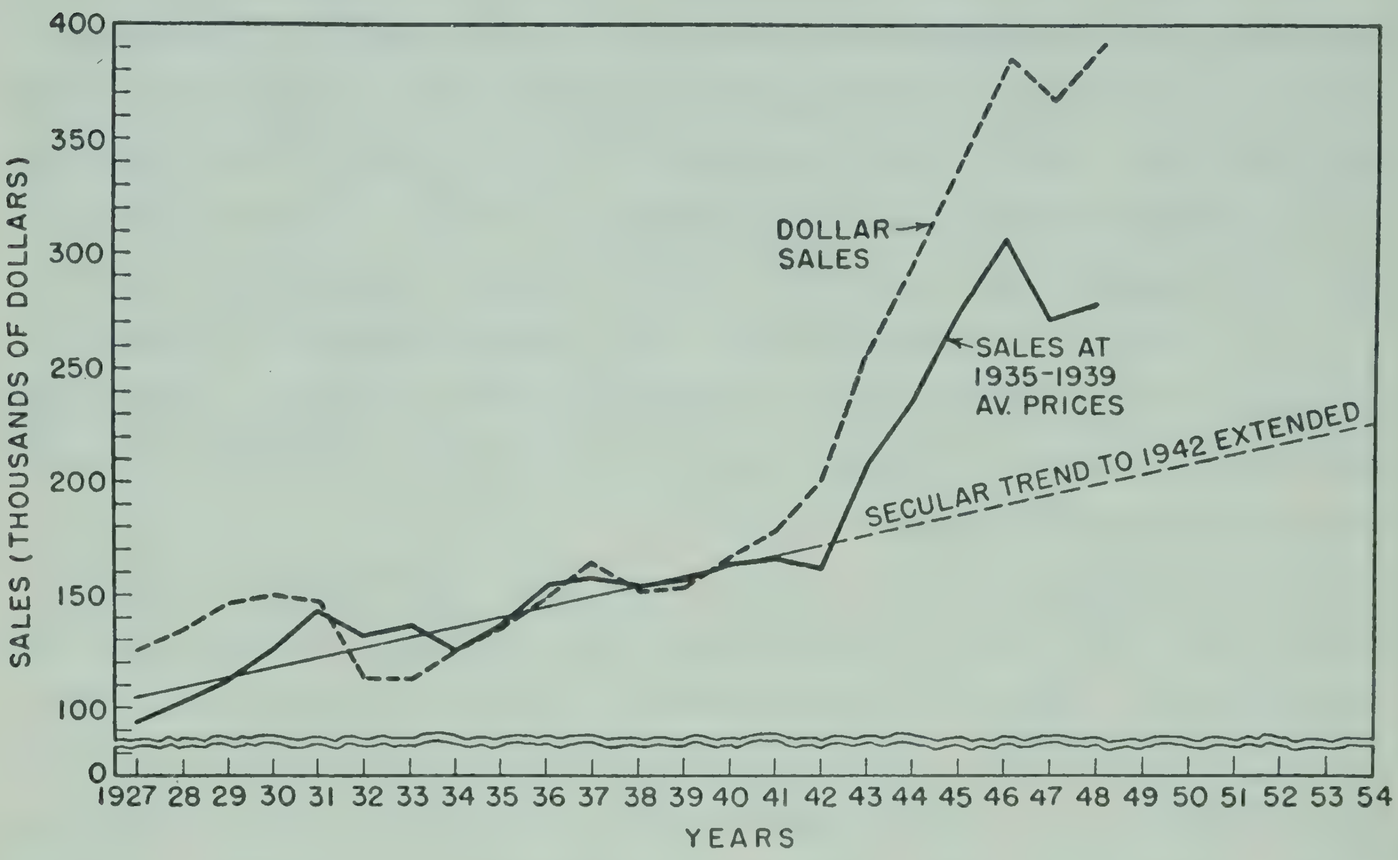

FIGURE 28. The Long-Time Trend of Sales.

The intermediate forecast. For purposes of preparing merchandising plans, it is not necessary to look either very far ahead or very far behind. A two-year backward look is probably enough in estimating sales from six months to a year ahead. Nor is there any necessity of working out and projecting trend lines, since the probable sales for the intermediate forecast are influenced primarily by outside and inside conditions. A study of the sales movements in Figure 28 reveals that it is unsafe to assume that the average increase of the past few years will continue into the next year. From 1927 to 1930, sales moved up, but the average of the three increases would have been of no value in estimating 1931 sales. Similarly, the two declines from 1930 to 1932 do not forecast the turn in 1933. And clearly, the increases in 1943, 1944, 1945, and 1946 do not forecast the drop in 1947. It is true, however, that when sales are plotted and analyzed by months, monthly changes, after correction for seasonal variation, often forecast a turning point.

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[5] This is about $308,000 in terms of 1948 prices, compared with actual 1948 sales of $391,200.

A good plan is to note the change in sales for the past two years and to estimate probable deviations from last year in the light of business conditions. For example, the following data are available for the store depicted in Figure 28.

1937 sales	$162,000
1938 sales	$152,000

Sales dropped $10,000 during a year when most businesses suffered a recession, but the latter months of 1938 compared more favorably with 1939. Moreover, trends in production and purchasing power were on the increase again. Accordingly, an increase over 1938 could be forecast, but the first year after a depression seldom shows an increase as great as the drop of the former year. Thus, volume of less than $162,000 but more than $152,000 would have been reasonable for 1939. It was actually $156,000.

An increase bigger than the $4,000 increase in 1939 would have seemed probable for 1940. The actual sales were $164,000. From then on, for a number of years, war-induced purchasing power and inflation led to much larger increases.

The following data from the same store are available for a more recent period:

1945 sales	$341,000
1946 sales	$383,000

There had been an increase every year since 1938 and most of the increases had been very large—10 per cent to 25 per cent a year. Prices were moving up sharply, transactions were starting to fall off in the high-class fashion merchandise for which this store was famous. Accordingly, a further increase in 1947 was problematical. To have assumed that rising prices would just offset declining transactions would have been a reasonable assumption. Actually, dollar sales volume declined 4 per cent in 1947. But errors of such narrow proportions are not serious, since merchandise commitments are seldom made for a year ahead. On an average, general merchandise is ordered only a month ahead so that frequent revisions in sales forecasts as the year progresses make it possible to adjust orders closely to actual sales.

Outside conditions. In determining the increase for a store or a department, outside conditions, as indicated, must be given major weight. These include general and local business conditions, price changes, fashion changes, and the weather. Long-range weather forecasting is still in the experimental stage, but the Weather Bureau already provides fairly reliable forecasts for a month ahead, reporting expected variations from the average of temperature and humidity. Dr. Charles G. Abbot, research associate of the Smithsonian Institution, has developed a method of forecasting a year ahead based upon a theory of a solar cycle of heat and light radiation. As time goes on, store planners will make a greater use of the weather forecasts provided.

For the store as a whole, the swing of business activity, known as cyclical change, is the most important outside factor. The most useful indexes to forecast cyclical changes in retail trade are those of consumer purchasing power, movements of wholesale and retail prices, and the trends in the value of industrial production.

Forecasting transactions and the average sale. The price factor complicates forward planning in that increases and decreases in sales are often caused by price changes and not by changes in physical volume. For example, department-store sales increased about two and a half times from 1939 to 1948, but the number of transactions increased only one-third. Most of the dollar sales increase was caused by the rise of about 80 per cent in the average sale, which, in turn, was the result of higher prices. Again, the 1949 loss in dollar sales volume was primarily the result of lower prices rather than of fewer transactions. See Figure 4 in Chapter 4.

Owing largely to the price factor, the number of sales transactions in a store show a much steadier trend than do dollar sales. Physical needs of people vary much less than the amount they spend to satisfy their needs. Accordingly, sales planning can probably be more accurately done by studying the trend of transactions, estimating the probable transactions for the coming year or season, and then multiplying by the amount of the estimated average sale. The most difficult step in this procedure is to estimate the amount of the average sales transaction. This may be done by considering the changes in the following factors:

1. Price changes.
    a. Supply of money and credit in relation to business activity.
    b. Supply of goods of a specific type in relation to demand.
2. Changes in the physical quantity of merchandise in an average transaction. Changes in consumer habits and suggestion selling methods must be considered.
3. Changes in markup per cent. A reduction in the markup percentage may reduce the average sale with no change in the general price level or physical quantity of goods purchased at one time.
4. Changes in the quality of merchandise desired and purchased. A demand for better quality may increase the average sale with no change in the other factors.
5. Changes in the relative demand for different goods at different prices. If, in men's furnishings, for every 10 transactions of ties at $1.00, there are 10 transactions of shirts at $2.00, the average sales is $1.50. But if the demand shifts to 12 transactions of ties at $1.00 to 8 of shirts at $2.00, the

average transaction is \$1.40, even though prices have not changed.

Transaction and average sale relationships. The average sale in relation to the number of transactions and dollar sales is expressed by the following equations already presented in Chapter 4.

$$\text{Dollar sales} = \text{Transactions} \times \text{Average sale},$$

and

$$\frac{\text{Dollar sales}}{\text{Transactions}} = \text{Average sale},$$

and

$$\frac{\text{Dollar sales}}{\text{Average sale}} = \text{Transactions}.$$

These relationships are of value in cases such as the following: Sales transactions last year may have been 10,000 and, according to the cyclical trend, there is expected to be an increase of about 250 next year. The average sale last year may have been \$2.00, with an estimate of 10 per cent lower prices for this year, giving an average sale of \$1.80. The planned sales figure, then, is 10,250 times \$1.80, or \$18,450, compared with actual sales of \$20,000 the year before.

Another example is where sales last year were \$800,000, and this year, \$720,000, a decrease of 10 per cent. Transactions last year were 450,000, and this year, 436,500, a decrease of 3 per cent. This means a 7.2 per cent decline in average sale, derived as follows:

$$\text{Average sale} = \frac{100\% - 10\%}{100\% - 3\%} = \frac{90\%}{97\%} = 92.8\%, \text{ indicating a decline in the average sale of 7.2 per cent.}$$

Furthermore, if dollar sales are expected to increase 5 per cent while the average sale rises 2 per cent,

$$\text{Transactions} = \frac{100\% + 5\%}{100\% + 2\%} = \frac{105\%}{102\%} = 102.94\%, \text{ indicating a rise in transactions of 2.94 per cent.}$$

Fashion. In the case of individual lines of goods or selling departments, fashion trends are frequently more important than business conditions in their influence on sales. For example, during the depression of 1930–1933, the sales of many corset departments increased, owing to the fact that the corset had become an essential foundation garment for the mode in dress. Conversely, in the early 40's, sales of millinery dropped off because of a fashion not to wear hats. Again, with the arrival of the so-called New Look in 1947, the sales of trimmings and ribbons increased as customers lengthened their old clothes.

While fashion often affects only the sales of individual styles, it sometimes is a major influence in determining the sales volume of a whole department. In planning, then, it is particularly necessary to forecast those fashions that influence a whole line. The plans should deviate from the volume estimated by considering business conditions alone by the amount of extra or reduced business that is estimated to result from the fashion influence.

Inside conditions. Conditions within the store or department, as well as those outside, have a marked influence on possible sales. Changes in store policy, changes of personnel, changes in promotion plans and the advertising allowance, changes in merchandising technique, changes in department location, merchandise layout, and area of space occupied, all are important factors in determining sales possibilities. These are the factors largely within control, those that the store must manipulate to offset adverse outside factors or to augment the returns from favorable outside conditions.

Since outside conditions face all competitors alike, adequate sales volume in the long run depends upon these inside conditions, that is, upon the efficiency of management. There is danger, however, that the sales forecaster will give too much immediate weight to a favorable change in inside conditions. It sometimes takes a year or two to reap benefits from improved policies and techniques.

Breakdown of Season Plan by Months

After the sales for a store or department have been planned on a basis of the above factors for a year or a six-month season, they must be planned for each month. This may be done by calculating the normal seasonal variation that the store or department has experienced in the past. For example, monthly sales over a five-year period may be totaled as follows:

Five-Year Sales of Hosiery

August	$67,000	12.3%
September	78,000	14.4
October	85,000	15.7
November	85,000	15.7
December	173,000	31.9
January	54,000	10.0
Season total	$542,000	100.0%

If the planned sales for the coming fall and winter season are $120,000, August sales may be planned at 12.3 per cent of this, or $14,760, January sales at 10 per cent, or $12,000, and other months may be planned in the same way.

In practice, adjustments will still have to be made for such factors as the following:

1. An upward or downward trend in sales. If sales are increasing rapidly as compared with the past five years, a larger percentage of the season total may be expected late in the season and a smaller percentage early. The August figure might be cut down to $14,400, for example, and the January figure increased from $12,000 to $12,250.

2. Special sale plans. A decision to hold in October a sale formerly held in September will change considerably the relative importance of the two months.

3. Changes in customer buying habits. There may be a tendency to buy relatively more in November and less in December than formerly.

4. In the case of fashion merchandise in the spring season, changes in the date of Easter. Since Easter varies from late in

March to late in April, the relative business to be obtained in the two months varies a great deal, but other months are not affected. A good scheme is to combine the two months for planning purposes. For example, 36.6 per cent of the spring hosiery business may be done in March and April combined. If the season total is $100,000, $36,600 may be planned for the two months. If the year before, with Easter on April 1, 55 per cent of the two-months' business was done in March and 45 per cent in April, this year, with Easter on April 21, the business will probably be more evenly divided between the two months. The probable distribution may be judged by comparing the records of an earlier year when Easter was also late in April.

5. Number of selling days. It would be desirable to have each month represent four or five full weeks rather than periods varying both in number of selling days and number of Saturdays. Each month may be regarded as a four-week period, with 13 a year, or two months of each season may represent five-week periods and four months four-week periods. Some stores break down their season plans directly to weeks rather than months. If such periods are not set, a fifth adjustment in monthly plans has to be made for changes in the number of selling days and peak days in the month. For example, a preliminary August sale figure of $14,760 may be set on a basis of an average of 27 selling days in the past five years, but this year there may be 26 selling days; the plan then should be multiplied by 26/27, giving $14,213.

Figure 29 shows the typical seasonal variation in department stores.

Summary of sales planning procedure. A sound sales planning procedure in connection with making a six-months' merchandise plan for the fall season, for example, may be summarized as follows:

1. Assemble the seasonal sales data for the past three or four years and note how large or small the sales variations have been from one fall season to the next.

2. Obtain a breakdown of the data into transactions and average sale to determine the underlying causes of past changes in dollar sales.

3. Study the policies, merchandising, and promotion methods that were followed the last fall season and make specific merchandising and promotion plans (inside conditions) for the season ahead. If these will differ little from those of the past, outside conditions will dominate changes in the sales forecast.

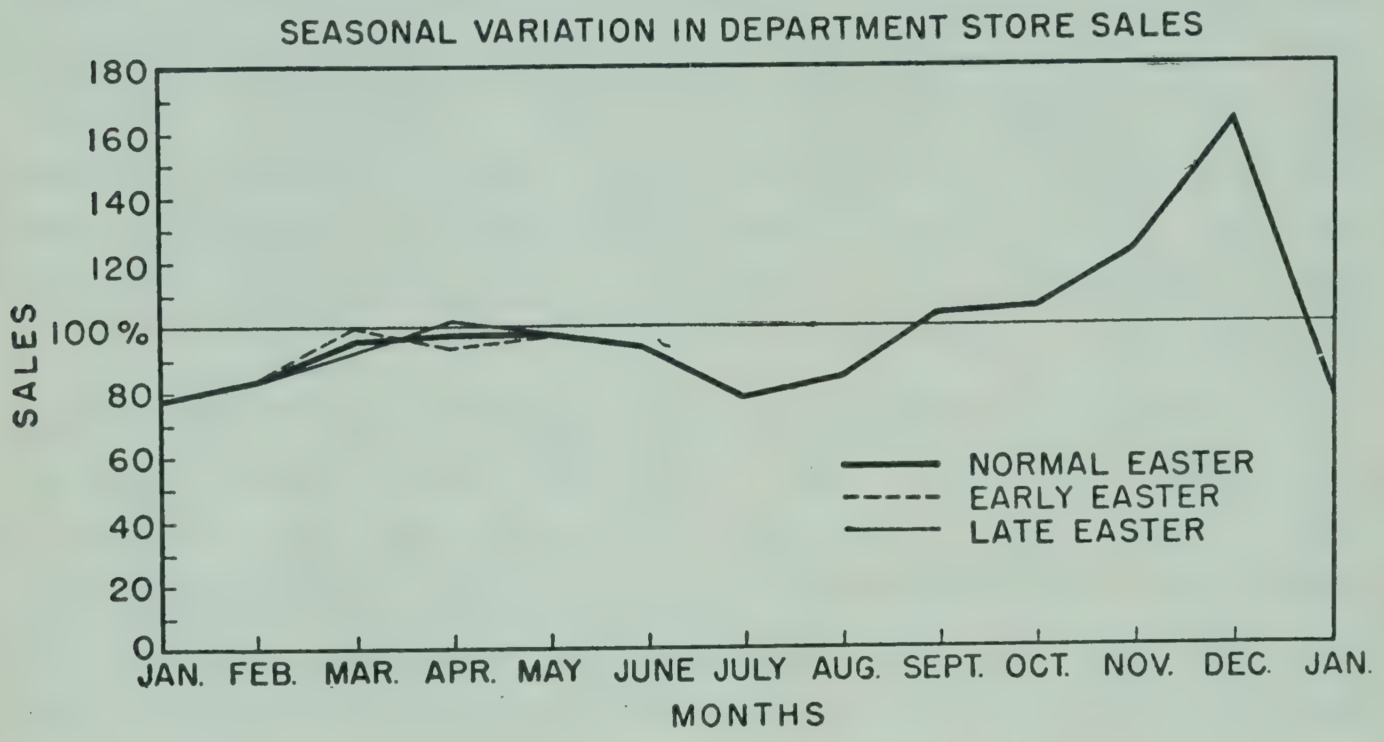

FIGURE 29.

4. Study outside conditions, particularly trends in the consumer price level, in unemployment, in the value of industrial production, in government attitude toward business, in fashion, and in retail sales during the past few months compared with the corresponding months the year before. The point in the business cycle should be determined if possible as a clue to the next phase.

5. In view of past sales variations, inside and outside conditions, estimate the probable number of sales transactions that will be realized during the coming fall season.

6. Estimate the average sale giving weight to the considerations listed on page 369.

7. Multiply the estimated number of transactions by the estimated average sale to determine the probable dollar sales. If the *transactions* and *average sale* figures are *gross*, allow for probable returns from customers, based on past experience. Also, check the dollar sales forecast arrived at in this manner against the past dollar sales to see if the change seems reasonable.

8. Break down the sales forecast for the entire season into months, being guided by the seasonal distribution of the past few years, but making adjustments for the factors listed on page 372. If the buyer kept a monthly diary last season that indicates the special circumstances each month, it will be much easier to decide whether last year's seasonal distribution by months is or is not a reasonable basis for planning the monthly sales this year. When the average sale varies in a predictable manner month by month, it is desirable to make the monthly forecast in transactions as well as in dollars.

Planning Markdowns and Other Reductions

Factors to consider. Even though the forecasting of sales provides the major problems in constructing a six-months' merchandise plan, it is often desirable to forecast the probable amount of price reductions as well. These consist largely of markdowns but include shortages and discounts to customers and employees also.

On a basis of past experience, reductions may be planned as a percentage of each season's sales and allotted to months according to the estimates of the management as to the best time to take markdowns to move the goods. For example, with season sales of $100,000, a reduction appropriation of 7 per cent, or $7,000, may be set. It would hardly follow that the allotment for each month would be 7 per cent of the month's sales, for early months in the season would probably require markdowns in smaller proportion than the average. The bulk of the markdowns might take place in the last two months', still some markdowns should be taken earlier in the season.

The chief factors to consider in setting the season's reduction percentage are:

1. Past experience.
2. Trends in wholesale prices. Reductions tend to increase during periods of dropping wholesale prices and to drop when wholesale prices are rising.
3. Comparative figures of similar stores.
4. Percentage of old stock on hand at the beginning of the season compared with former years.
5. Changes in merchandising policies, methods, and personnel.

In distributing the season's appropriation to months, the considerations are:

1. The points in the season at which changes occur in the style and type of goods wanted by customers.
2. The store policy in regard to when to take markdowns.[6]
3. Amount of old stock on hand at the beginning of the season.

The merchandising plan presented on page 359 shows last year's markdowns as 5 per cent for the season with a plan of 3 per cent for this year. This percentage is applied to the planned dollar sales of $17,800 and the resultant dollar reductions of $530 are distributed to the months. Although last year's distribution is approximated, greater reductions are planned for February to dispose of a quantity of heavy-weight goods not sold out in January and with the hope of cutting the markdowns that will have to be taken later on winter goods.

Deriving the markdown plan. Sometimes, markdowns as such are not planned, but only initial markup and maintained markup per cents, for example, a department may have a 40 per cent markup goal and a 34 per cent maintained markup goal on season sales of $50,000. At midseason its markdowns may be 12 per cent of sales of $30,000. The question is how much more in markdowns it may take, assuming the sales and markup per cent goals will be reached.

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[6] See Chapter 10 for a discussion of this problem of policy.

Referring to Chapter 7, we find that:

$$\text{Reductions} = \frac{\text{Initial Markup \%} - \text{Maintained Markup \%}}{100\% - \text{Initial Markup \%}}.$$

$$\text{Reductions} = \frac{.40 - .34}{1.00 - .40} = \frac{.06}{.60} = 10\%$$

10 per cent of $50,000 = $5,000
Markdowns to date
12 per cent of $30,000 = 3,600
Balance $1,400
1400 ÷ 20,000 (sales remaining) = 7%

Thus, even though markdowns to date are 12 per cent, additional reductions of 7 per cent will result in a season's figure of 10 per cent. It should be noted that the balance of $1,400 includes shortages as well as markdowns.

REVIEW QUESTIONS

1. Why is planning, today, an essential tool for buying and selling?
2. What is a merchandise plan?
3. What items in the plan need monthly or even weekly budgets?
4. What items may be planned for the season as a whole?
5. What is the normal life history of a store in terms of the trend of sales?
6. What three types of sales forecasts may be made?
7. Why is it necessary to consider sales of only the immediate past and seasonal variation in making a short-term forecast?
8. Explain the mail-order technique of forecasting sales for the short term.
9. For what purposes is a long-term trend forecast needed?
10. Why is it wise to do such forecasting in terms of physical volume?
11. What is meant by an intermediate forecast?
12. What factors are more important than the long-time trend in making such a forecast? Why?
13. How may consideration be given to the weather in forecasting?

14. Why is it better to forecast transactions and average sales separately rather than dollar sales directly?
15. What five factors should be considered in attempting to forecast the value of the average unit of sale?
16. What is the triple relationship among dollar sales, transactions, and average sales?
17. Are all changes in fashion important considerations in dollar sales forecasting?
18. What are the major changes in inside store conditions that should influence sales forecasts?
19. Why are intermediate sales forecasts usually made for six-month periods rather than separately for each month?
20. What is the major guide in distributing a season's sale forecast to months? What other factors should also be considered?
21. Summarize sales planning procedure under eight headings.
22. What are the five major factors to consider in planning the reductions for a season?
23. What are the factors to consider in distributing the season's planned reductions to months?
24. How may allowable reductions for a balance of a season be determined when initial and maintained markup goals have been set and sales and reductions to date are known?
25. What is a buyer's diary? What information should it contain? How can it help the buyer?

20

How to Plan Stocks in Dollars

Considerations in Stock Planning

Complete stocks. After sales and reductions have been planned month by month in view of the cyclical trend and of outside and inside changes, the stocks necessary to realize the volume goals may be determined. It is a good practice to plan stock for the beginning of each month rather than for the end, since sales in a month are possible only if stocks are first provided. Of course, the planned beginning stock for one month is the same as the planned ending stock for the month before. In setting the stocks for the first of each month, there are two major considerations. The first is to have an adequate assortment and quantity of the goods necessary to meet customer demand in the volume anticipated. This involves the planning of classifications, price lines, types, materials, style numbers, colors, sizes, and quantities in each. The second consideration is to realize a desired stock-turn relationship so that markdowns may be minimized and the other advantages of control realized.

The planned assortments and quantities grow out of past experience coupled with manufacturers' recommendations as to what constitutes an adequate stock of their respective lines. The modern tendency is to cut down on the number of price lines and on the number of closely similar styles and brands carried.

Stock-turn goals. The turnover goals set also grow out of past experience, but are modified in view of outside turnover standards obtained from other stores, preferably of similar size, policies, and clientele.

An important principle of monthly stock planning is to plan percentage fluctuations in the value of the stock smaller than the fluctuations in the sales. For example, if a $10,000 retail stock is necessary on February 1 to allow February sales of $5,000, a stock of $15,000 should not be necessary for March 1, if March sales of $7,500 are expected. Usually, in the busy months, monthly turnover should be higher than the average for the season and lower in the dull months, since once basic assortments are provided, monthly variations in sales do not require proportionate variations in stock. In fact, some stores handling staple lines can keep their stocks nearly constant even though the sales fluctuate seasonally. This means, of course, that the turnover in peak months is much higher than it is in dull ones.[1]

Methods of Stock Planning

There are four well-known formal methods of balancing stocks to sales. The first three begin by setting a pre-determined stock-turn goal for the year or season and so applying this goal as to give suitable stock figures for the first of each month or week.

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[1] It has been suggested that monthly stock plans may be made by planning separate turnovers for each. Thus, if an annual turnover of 6 is desired, the average monthly turnover is 6/12 or 1/2. In December, a peak month, a higher turn of 3/4 might be planned and in July, a dull month, a turnover of 1/4. There are two objections to this procedure: first, there are no generally available standards as to what monthly stock-turn should be for any specific line of goods, and second, the application of stock-turn to planned sales gives average stock rather than the stock for the first of the month. Thus, with planned December sales of $30,000 and planned turnover of 3/4, the average stock is $30,000 ÷ 3/4 or $40,000, but this does not answer the question as to what the stock should be on December 1 or at the end of the month, nor would it reveal whether the stock at the end of the month should be more or less than at the beginning.

1. *Basic stock method.* One of the methods is expressed by the following equation: Retail stock at the first of a month = Sales for the month + (Average stock for the season − Average monthly sales).

Formal Stock-Planning Methods

1. Basic stock method
   Planned sales for each month added to a basic stock to obtain the stock on the first of each month.
2. Percentage variation method
   Stock increased or decreased from the average stock desired by one-half the percentage variation in sales from average monthly sales.
3. Weeks' supply method
   Based on planned turnover, the number of weeks' supply to be carried is determined and sales estimated for this number of weeks ahead.
4. Stock-sales ratio method
   A planned ratio between the stock on the first of any given month and the sales for that month. This ratio is multiplied by the planned sales for that month.

For example, during a fall-winter season of six months, a stock-turn of 3 may be planned, with season sales of $60,000. Sales for October may be estimated at $13,000, and for March at $10,000. The average monthly stock is $60,000 ÷ 3 = $20,000, and the average monthly sales $60,000 ÷ 6, or $10,000. Applying the formula:

$$\begin{aligned}\text{Stock, October 1} &= \$13{,}000 + (20{,}000 - 10{,}000) = \\ &\quad \$13{,}000 + \$10{,}000 = \$23{,}000 \\ \text{Stock, November 1} &= \$15{,}000 + \$10{,}000 = \$25{,}000\end{aligned}$$

This plan increases and decreases stock at the first of each month in the same dollar amount as sales increase or decrease. In the example, November's sales are $2,000 higher than October's, and stocks are $2,000 higher, too. The plan also provides for a *basic* [2] stock, which term may be interpreted here as the difference between the average stock and the average monthly sales (the $10,000 in the example). This basic stock is constant through the season; thus stocks for the first of any month may be found by adding the sales for that month to the basic stock. If sales for some month were to drop temporarily to zero, the formula would still provide for the basic stock. See Figure 30.

So long as stock-turn is less than 12 a year—that is, so long as the average monthly sales are less than the average monthly stock—this formula provides for a fixed basic stock and thus yields a higher turn in busy months than in dull months. See Figure 30. When turnover is over 12 times a year, the basic stock will become a *negative* figure and the equation will fail to give satisfactory results. In fact, this equation is not recommended for use when stock-turn is more than 6 times a year. For such high stock-turns, however, there is a modification of the equation:

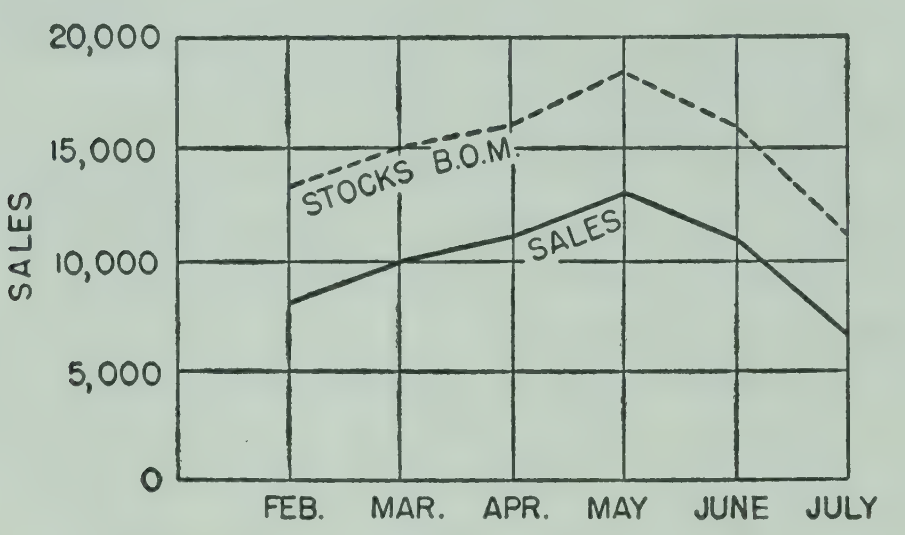

FIGURE 30. Seasonal Plan for Sales and Stocks.

Stock at retail first of month = Av. weekly sales for the month + (Average stock for season — Average weekly sales for season).

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[2] The term *basic* as used here should not be confused with the term "model" stock.

For example, season sales, \$260,000; planned turnover for season, 5; sales for December ($4\frac{1}{3}$ weeks), \$65,000, or \$15,000 a week.

$$\text{Stock December 1} = \$15{,}000 + \left(\frac{260{,}000}{5} - \frac{260{,}000}{26}\right) =$$
$$15{,}000 + (52{,}000 - 10{,}000) =$$
$$15{,}000 + 42{,}000 = \$57{,}000$$

2. *Percentage variation method.* A second method of stock planning is based on the premise that the percentage fluctuations in monthly stock from average stocks should be half as great as the percentage fluctuations in monthly sales from average sales. This method is suitable for stock-turn of 6 times a year or more.

For example, if sales in one month are 20 per cent above the average monthly sales, the stock for the first of the month would be increased 10 per cent above the average monthly stocks. Again, referring to the example on page 381, with October sales of \$13,000, average sales of \$10,000, and average monthly stocks of \$20,000, sales are 30 per cent above average. Stocks, then, are increased 15 per cent above \$20,000 and become \$23,000. This is the same figure as that calculated by means of the first method; in fact, the two methods give the same result when a turn of 6 is planned for the year or 3 for the season. When higher turns are planned, the percentage method gives stocks that fluctuate less than those found by the first method. Were the percentage method to be used for stock-turn of less than 3 times a season, it would yield stocks that fluctuate more than those derived by the first method.

This percentage method may be expressed as a formula, as follows:

$$\text{Retail stock, 1st of month} = \text{Average stock} \times \tfrac{1}{2}\left(1 + \frac{\text{Sales for month}}{\text{Average monthly sales.}}\right)$$

For example, the planned sales for the year may be \$48,000; the planned sales for July, \$2,500; and the planned yearly turnover, 8:

$$\text{Retail Stock July 1} = \frac{48{,}000}{8} \times \tfrac{1}{2}\left(1 + \frac{2{,}500}{48{,}000 \div 12}\right) =$$

$$6{,}000 \times \tfrac{1}{2}\left(1 + \frac{2{,}500}{4{,}000}\right) =$$

$$6{,}000 \times \frac{1.625}{2} = 6{,}000 \times .8125 = \$4{,}875$$

In other words, July sales are 37½ per cent less than the sales in the average month and this equation reduces stocks from average by one-half this percentage, or 18.75 per cent. Six thousand dollars times the complement of 18.75 per cent, or 81.25 per cent, gives $4,875.

Adjustments for monthly differences in selling days. There is one caution that should be observed in connection with either of the two methods presented thus far. The monthly sales used in calculating B.O.M. stocks for succeeding months should represent the same number of selling days. For example, October, with 27 selling days, might have planned sales of $27,000 and November, with 25 selling days, might have planned sales of $25,000. If the difference in selling days were disregarded, November 1 stocks would be planned lower than the October 1 stocks even though the daily rate of sale is just the same and there is need for as much stock in November as in October. To avoid increasing or decreasing planned stocks simply because of changes in the number of selling days in a period, a good rule would be to express the sales for each month in the season in terms of a normal 26 selling days, before either of the two stock-planning formulas are applied. This suggestion is not to be construed as calling for an adjustment in the monthly planned sales entered in the merchandise plan but simply in the monthly planned sales figures to be used in a stock-planning formula.

3. *Weeks' supply method.* A third method of stock planning is to plan sales ahead on a weekly basis and to set stocks equal to a predetermined number of weeks' supply, depending upon the stock-turn desired. For example, if about 10 turns a year are desired, the stock should equal about 5 weeks' supply

$\left(\frac{52}{10} = 5.2\right)$. A table like the following is then drawn up and every week the sum of the planned sales for the coming 5 weeks is set as the stock for the beginning of that week.

TABLE VII

PLANNING STOCKS FOR THE FIRST OF EACH WEEK

(Equal to the sales of the next 5 weeks)

			Sales	*Stocks*
February	1st	week	$800	$4,150
	2nd	"	700	4,350
	3rd	"	850	4,650
	4th	"	900	4,900
March	1st	"	900	5,100
	2nd	"	1,000	5,400
	3rd	"	1,000	5,800
	4th	"	1,100	6,000
	5th	"	1,100	5,900
April	1st	"	1,200	5,900
	2nd	"	1,400	5,900
	3rd	"	1,200	5,600
	4th	"	1,000	5,300
May	1st	"	1,100	5,400
	2nd	"	1,200	5,300
	3rd	"	1,100	5,000
	4th	"	1,000	4,700
June	1st	"	1,000	4,600
	2nd	"	1,000	4,500
	3rd	"	900	4,300
	4th	"	800	4,100
	5th	"	900	3,900
July	1st	"	900	3,800
	2nd	"	800	3,600
	3rd	"	700	3,650
	4th	"	600	3,850
			$25,050	
August	1st	"	800	$4,150 (Season end)
	2nd	"	700	
	3rd	"	850	129,250 Total of 27 stock figures
	4th	"	900	
September	1st	"	900	4,828 Av. stock $\left(\frac{129,250}{27}\right)$

$$\text{Turnover for season: } \frac{\$25,050}{\$4,828} = 5.2$$

Annual rate of turnover $= 2 \times 5.2 = 10.4$

Obviously, by keeping the stock at 5 weeks' supply, this method yields a turnover equal to the number of times 5 goes into the number of weeks in the period: 26 ÷ 5 = 5.2.

This method has the shortcoming of varying stocks in direct proportion to the changes in sales. If the rate of sale doubles, the stocks double and vice versa. Thus, the turnover is the same throughout the year, a situation that is not generally desirable since it is likely to mean carrying too much stock at the peak of the season and not enough in dull periods. This method does not provide for a minimum basic stock to be carried no matter how low sales may drop. The method is probably more suitable for the unit control of some staple items than for store-wide or departmental dollar stock planning.[3]

4. *Stock-sales ratio method.* Instead of using a formula based on a planned turnover, some planners have used monthly stock-sales ratios as the basis for stock planning.[4] For example, it may be found, upon investigation that the February 1 stock-sales ratio for a medium-sized hosiery operation is 2—i.e. that the stocks on the first of February are usually twice the February sales. Thus, if the store forecasts sales of $20,000 for February, it may multiply this figure by the stock-sales ratio of 2 to find planned stocks of $40,000 for February 1. Were sales planned at $25,000, the planned stock would be $50,000.

The chief difficulty with this method is the research involved in developing for each line of goods a stock-sales ratio for each month. Instead of having a single annual turnover goal it is necessary to have 12 monthly stock-sales ratios. Some stores study their own monthly stock-sales ratios and attempt to improve on them; others belong to figure exchange groups and calculate typical stock-sales ratios for the group, which they then apply to their own sales. For example, one group of stores may find that this year's typical B.O.M. stock-sales ratio for millinery on June 1 is 0.8, and this figure may become available to the members of the group on July 10. One of the stores may have sold $20,000 worth of millinery in June with a June 1 stock of $22,000. Applying the ratio of 0.8 to the sales indicates that this store might have sold $20,000 with only a $16,000 stock on June 1, and that it may have been overstocked $6,000. If, similarly, the July stock is also larger than the stock figure derived from the July stock-sales ratio, the store's management may conclude that a definite effort should be made to reduce stocks by September 1. The stock-sales ratios derived from this year's operations may also be used next year to plan stocks.

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[3] This *weeks' supply* method may be adjusted to make it suitable for dollar stock planning by setting a smaller number of weeks' supply than average for peak periods and a larger number of weeks' supply than average for dull periods. Referring to the table, at the peak of the season, on April 1, the stock might be planned at 4½ weeks' supply or $5,550 (rather than $5,900) and on July 1 at 5½ weeks' supply or $4,150 (rather than $3,800). With such an adjustment, the plan may give excellent results, but it is difficult to plan how much to deviate from normal in peaks and valleys. In the example in the table, the stock is to average 5 weeks' supply, but only judgment can determine how many fewer weeks' supply to carry in busy seasons, and how many more to carry in dull seasons.

[4] See Chapter 16 for a definition and analysis of stock-sales ratios.

When a group of stores exchanges monthly sales and stock information for purposes of calculating typical or average stock-sales ratios, it should be noted a median or mean figure for the entire group would not be suitable if there were a considerable difference in the sales of the different stores included. When monthly sales are large, stock-sales ratios are relatively small and when monthly sales are small, stock-sales ratios are relatively large. For example, for a small hosiery department to sell $5,000 worth of hosiery a month it may need a stock of $15,000 on the first of the month—a stock-sales ratio of 3. But a large store selling $50,000 a month will not need stock 10 times as great or $150,000—assortments do not have to be increased in direct proportion to the increase in sales. It may be possible to operate with a stock of $75,000—five times as great as that of the small operation—and to achieve a stock-sales ratio of 1½. Accordingly, stores should be grouped into sales volume classifications and separate stock-sales ratios calculated for each sales volume group.[5]

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[5] It is possible to go even further and to plot on a chart the stock-sales ratio that corresponds to monthly sales figure for a store, with the stock-sales ratio

Another difficulty with stock-sales ratios obtained from a group of stores is that differences in seasonal variation in different stores in the group tend to distort the average ratios computed. The stock-sales ratio concentrates all attention on the relationship between stock on the first of the month and sales for the one coming month. The stock on the first of a month is also influenced by the sales expected for the season as a whole.

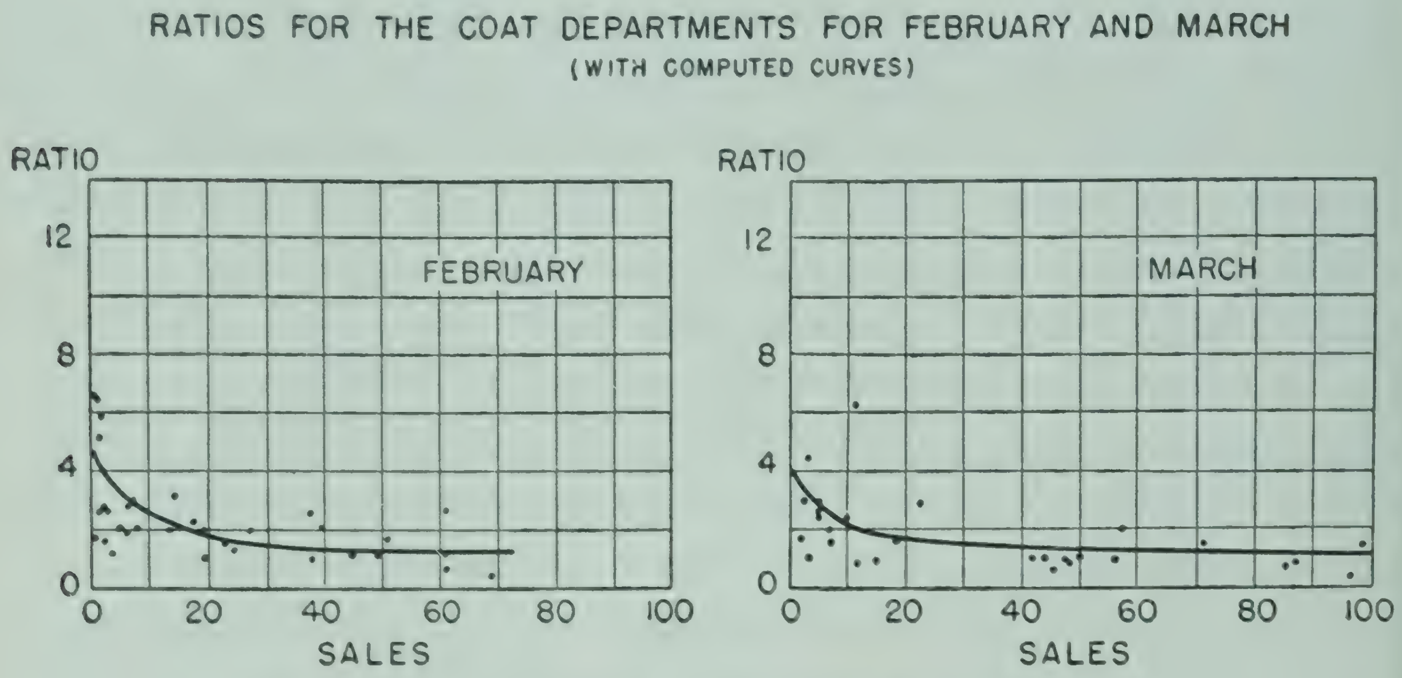

FIGURE 31. Standard Stock-Sales Ratio Curve.

Planning by transactions or units. An important consideration with each of these formal methods so far discussed is that an allowance may have to be made for variations each month or week in the average sale. For example, referring to formulas 1 or 2, if in any two months of the season dollar sales are the same, the dollar stocks will be the same. But in February, the first month of the season, sales may be $10,000 and February stocks $38,000 with an average unit value of $10. Thus, in terms of transactions, sales are 1,000 and stocks 3,800. In July, the last month of the season, sales may also be $10,000 and stocks also $38,000, but the average unit value at this time may be $5.

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the ordinate and the sales the abscissa. With each point representing a different store in a figure exchange group, a curve representing the curve of best fit may then be drawn so that there will be a different "normal" stock-sales ratio for every volume interval. See Figure 31.

Thus, transactions are 2,000 and stocks 7,600. A comparison of units reveals that sales transactions have doubled from February to July and that stocks have also doubled. But it has already been observed that stocks should fluctuate less than sales: if 3,800 units in stock are adequate for February with 1,000 sales units, it should not be necessary to carry as many as 7,600 units in July to provide for sales of 2,000 units. It may be concluded that where the average sale declines as the season progresses, the formulas will tend to provide too little stock early in the season and too much stock late in the season.

To avoid this difficulty, sales planning by months or weeks may be done in terms of transactions and stocks for the first of each period calculated in terms of transactions. These figures may be converted into dollars by applying the estimated average sale at that time.

Referring to the example above, depicting February and July, the total dollar sales for the six-month period may be $84,000 and the average sale $7, yielding 12,000 transactions. A turnover of 2 may be planned for the season, giving an average unit stock of 6,000. The average monthly sales are 2,000 transactions. With February transactions of 1,000, the stock for February 1 is: $1{,}000 + (6{,}000 - 2000) = 5{,}000$. With July transactions of 2,000, the stock for July 1 is: $2{,}000 + (6{,}000 - 2{,}000) = 6{,}000$.

In dollars, February 1 stock is 5,000 × $10 or $50,000 and July 1 stock is 6,000 × $5 or $30,000. These figures compare with stocks of $38,000 for both February 1 and July 1, obtained from dollar figures alone.

Limitations of Formal Stock-Planning Methods

Any one of the methods discussed above tends to center attention on stock-turn goals and on variation in monthly sales and gives no weight to other factors that might have considerable bearing in determining what a desirable stock should be.

Accordingly, any stock plan arrived at mathematically must be revised in view of the requirements not only to provide an adequate physical assortment, but also to allow for any necessary advance buying or for the carry-over of nonseasonable or slow-selling goods that cannot be economically disposed of at once. It would be unwise to allow a predetermined stock-turn figure wholly to dominate the monthly stock plans. A buyer of boys' clothing, for example, may estimate seasonal sales of $36,000 and October sales of $8,000 and plan a turn of 3. Apply the first of the formulas:

$$\text{Stock October 1} = \$8{,}000 + \left(\frac{\$36{,}000}{3} - \frac{36{,}000}{6}\right) = 8{,}000 + (12{,}000 - 6{,}000) = \$14{,}000$$

But the buyer will give careful consideration to his merchandise requirements in each classification, as follows:

	Season Purchases (and Sales)	*Purchases Needed by October 1*	*Sales to October 1*	*Stock on October 1*
Class A	$10,000	$6,000	$2,000	$4,000
Class B	5,000	3,000	2,000	1,000
Class C	15,000	6,000	1,000	5,000
Class D	8,000	7,000	3,000	4,000
Nonseasonable stock				1,500
Total				$15,500

With such an analysis, a stock of $15,500 may be planned for October 1 even though this is $1,500 in excess of the stock figure arrived at mathematically. But the availability of the figure arrived at by formula acts as a check upon the buyer's detailed plans to avoid too great a deviation from turnover standards.

REVIEW QUESTIONS

1. Why is it desirable to plan monthly opening stocks rather than monthly closing stocks?
2. What are the two major considerations in stock planning?
3. Should there be a close correlation between monthly sales changes and monthly stock changes? Explain.

4. Name four formal methods of stock planning.
5. Explain the use of the term *basic stock* in connection with the first of three methods.
6. What is the basic stock formula of stock planning?
7. Why is this formula better suited for low than for high stock-turns?
8. How may the formula be modified for use in connection with high stock-turns?
9. Give the formula of the "percentage variation" method of stock planning. What is the underlying principle?
10. Why is it important to consider the number of days in a month before applying a stock-planning formula? How may differences in days be provided for?
11. Explain the weeks' supply method of stock planning.
12. What is a serious shortcoming of the above? How may adjustments be made to handle the difficulty?
13. What is the stock-sales ratio method of stock planning?
14. What are three limitations of stock-sales ratios as a basis for planning?
15. Explain how a stock-sales ratio curve may be drawn to provide lower stock-sales ratio standards for higher sales volume intervals.
16. Why may stock planning based on dollar sales variations sometimes lead to too heavy stocks late in the season?
17. Explain how the formal stock-planning methods may be applied to monthly transactions plans as distinct from monthly dollar sales plans.
18. What are the limitations of the formal stock-planning methods?

21

How to Plan Purchases and Open-to-Buy

Purchase and Open-to-Buy Calculations

Planned purchase formula. With sales, reductions, and stocks planned for each month, the planned purchases may be readily determined by means of the equation presented in Chapter 19.

Planned purchases = Planned closing stock + Sales + Reductions — Opening stock.

To insure that actual purchasing is done according to the plan, stores maintain what is known as an open-to-buy control. This is a system of charging off orders placed against the buying limit (planned purchase figure) in order to determine what additional orders the merchant may place for delivery during any given month without exceeding his stock limits. These orders placed for which delivery has not yet been received are known as "outstanding orders" and the open-to-buy at the first of a month reads: O.T.B. = Planned purchases — Outstanding orders. Orders are commonly classified according to month of delivery. Since purchases are usually planned for each month separately, only the outstanding orders for a given month are charged off against the planned purchases for that month. Some stores classify the outstanding orders into two groups: (1) *current,* which is interpreted to mean those for delivery in the current month and (2) *future,* those for delivery in future months.

The open-to-buy for the current month is the difference between planned purchases for the month (or balance of the month) less outstanding orders. The open-to-buy for a future month is the difference between the purchases planned for that month and the outstanding orders already placed at the time of the calculation. For example:

Planned closing stock (July 31)	$15,000
Planned sales (July)	7,000
Planned reductions (July)	1,000
Total stock required	$23,000
Actual opening stock (July 1)	18,000
Planned purchases to be delivered during July	$ 5,000

If on July 1 there are outstanding orders at retail for delivery in July of $3,000, the open-to-buy is:

Planned purchases	$5,000
Less outstanding orders—July delivery	3,000
O.T.B. at retail	$2,000

The open-to-buy may be calculated at any time during the month, commonly every week. There are two ways to do this: (1) to subtract receipts to date and outstanding orders from the planned purchase figure for the month and (2) to recalculate the planned purchases for the balance of the month. Here is an example of the former method:

On July 8, the outstanding orders for the balance of the month may be $1,500 and purchases received from July 1 to 8, $2,500; the O.T.B. may then be figured as follows:

Planned purchases for July		$5,000
Receipts to date	$2,500	
On order today—July 8	1,500	
Total receipts and orders		4,000
O.T.B. for balance of month at retail		$1,000

(All figures at retail)

Here is an example of the second method when the planned purchases are recalculated every week to permit frequent adjustment due to changing conditions:

Stock July 1	$18,000
Purchases July 1–8	2,500
Total merchandise handled	$20,500
Sales and reductions July 1–8	2,000
Book inventory July 8	$18,500
Planned closing stock July 31	$15,000
Planned sales July 8–31[1]	6,000
Total stock required	$21,000
On hand July 8	18,500
Planned purchases balance of month	$ 2,500
Outstanding orders July 8 for July delivery	1,500
O.T.B. balance of month	$ 1,000

In practice, adjustments in sales estimates and in planned closing inventories are made frequently to allow for conditions unforeseen when original plans were made.

There are many variations in details of procedure. In a larger store, a common plan is for the buyer to meet with his merchandise manager every week to set or adjust the open-to-buy for the balance of the month.[2] The chief items of information needed are the following:

1. Estimated sales balance of month.
2. Estimated reductions balance of month.
3. Planned stock end of month.
4. Actual stock on hand.
5. Outstanding orders for delivery during the balance of the month.

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[1] Reductions for the balance of the month are frequently planned also.

[2] In some stores, stocks are planned for the end of each week, rather than simply for the end of each month. In this case the procedure is the same, except that the calculation at the first of each week involves planned sales for the week only and not for the balance of the month.

6. Markup desired for the month, if O.T.B. is to be figured at cost.

Example of O.T.B. Calculation

A boys' clothing merchant had to place most of his orders for suits two months ahead. On December 1, he estimated his sales for the coming February at $15,000 and for March at $20,000. He estimated that he should have $35,000 worth of goods on hand (retail) at the beginning of February and $40,000 at the beginning of March. He had already placed $2,000 worth of orders at cost for February delivery. His planned spring season markup was 40 per cent. He calculated his open-to-buy for February as follows:

Planned stock March 1	$40,000
Planned sales February	15,000
Total stock required	$55,000
Planned stock February 1	35,000
Planned retail purchases February	$20,000
Planned cost purchases February [20,000 × (1.00 − .40)]	12,000
Outstanding orders at cost for February delivery	2,000
O.T.B. for February at cost	$10,000

By repeating this control process weekly, the merchant will realize at the end of each month a stock very close to the planned figure. When larger stocks occur, they are deliberately allowed rather than suddenly found to exist.

Increasing open-to-buy. Frequently, the orders placed for delivery during a month are so large in relation to the planned purchases for that month as to check the purchasing of necessary or desirable merchandise. In fact, stores are frequently *overbought,* that is, the outstanding orders exceed the planned purchases for the balance of the period.

To correct an overbought condition or to increase an inadequate open-to-buy, there are the following possibilities:

1. To increase the planned sales figure for the month or balance of the month. This should never be the result of wishful thinking but should reflect favorable conditions not anticipated when the original sales plans were made.

2. To take more markdowns in the immediate future than were originally planned. This is a satisfactory method if the markdowns are really needed to move the goods, but otherwise would be a most costly way to obtain an open-to-buy.

3. To reduce the stock on hand by returning goods to vendors or transferring them to another unit of the store organization. The former is often unethical but the vendor might have a ready market for an oversupply of goods he had sold the store. The transfer device is a good one if the goods in question are really needed in the branch or other department. If the goods to be transferred will have to be sold at a lower price in a basement department, it will be necessary to take a markdown before the transfer is made.

4. To revise the planned closing stock upward. This is something of a last resort but would be justified (1) if the original stock plan has been carelessly made, (2) if the sales for the succeeding month are probably going to be more than originally estimated, or (3) if the immediate need for certain specific merchandise is deemed more important than keeping stocks under rigid control.

5. To transfer outstanding orders for delivery to another month. Thus, the planned purchases for January may be $10,000, and the outstanding orders for January delivery may be $12,000. Other goods valued at $2,000 retail may be sorely needed for January selling. It may be possible to change delivery dates on $4,000 of the orders to February. This would reduce the outstanding orders for January to $8,000 and provide the necessary $2,000 open-to-buy. Vendors will frequently consent to such transfers.

6. To cancel outstanding orders. If they are overdue, this is a legitimate practice but it is unethical otherwise. However, a vendor who has not yet made up goods may be able to substitute

sizes and colors, and possibly styles, if the items outstanding are not just what the store currently needs.

How to Increase Open-to-Buy

1. Increase planned sales.
2. Increase planned markdowns.
3. Reduce stock on hand by return or transfer.
4. Increase planned closing stock.
5. Transfer outstanding orders to a later month's.
6. Cancel outstanding orders.

Open-to-Buy Reports

Figure 32 is used in a department-store chain organization for the open-to-buy calculation. A sheet is made out every 10 days; that is, the open-to-buy is computed on the first of the month for the whole month and on the tenth and again on the twentieth for the balance of the month. Departmental sales for the month as originally planned are entered in column 5, and the figure is adjusted on the first, tenth, and twentieth, in view of the actual sales to date (column 6). In the example, glassware sales for September were planned at $13,000 but on September 20 were revised to $15,500, since September sales to date were $11,700 (column 7). The difference between columns 6 and 7 gives the probable sales for the balance of the month, column 9. The original stock plan for the end of the month is entered in column 10 and revised, if need be, in column 11. Actual stock on hand and in transit [3] is recorded in column 15, and outstanding orders in column 16. The total commitments are thus the sum of two columns, 15 and 16. In the example, these amount to $72,600. The open-to-buy is computed by subtracting the commitments from the sum of planned closing stock (column 11) and estimated sales (col-

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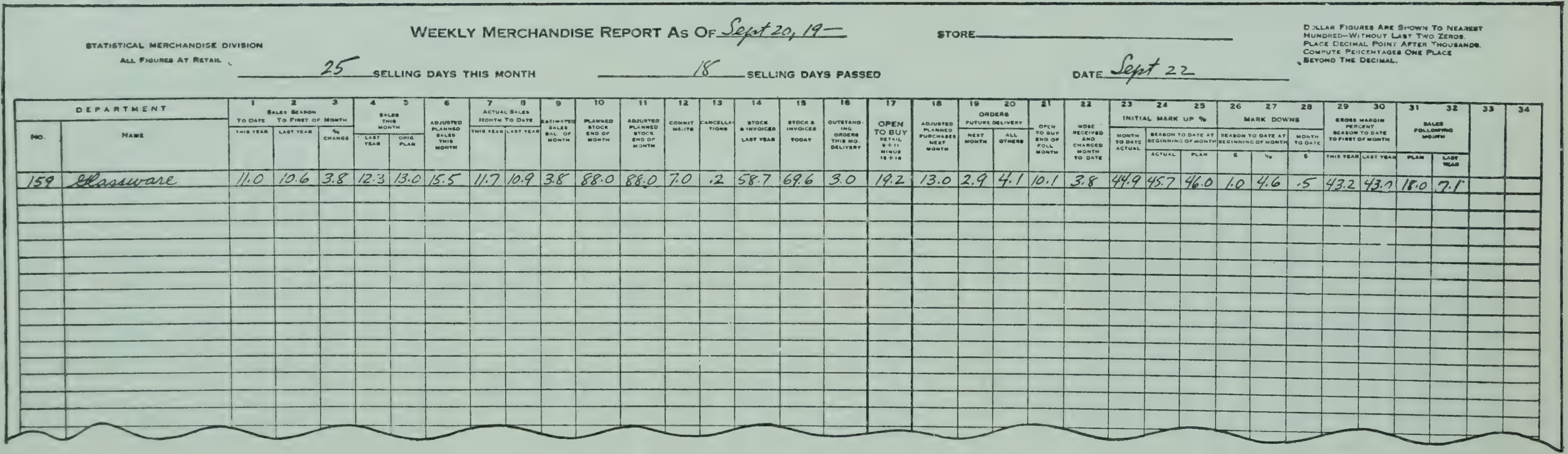
[3] Goods in transit represent goods for which invoices have been received and which have not yet been charged into stock as purchases but have been deducted from the outstanding orders.



STATISTICAL MERCHANDISE DIVISION
ALL FIGURES AT RETAIL

WEEKLY MERCHANDISE REPORT AS OF Sept 20, 19—

25 SELLING DAYS THIS MONTH

18 SELLING DAYS PASSED

STORE

DATE Sept 22

DOLLAR FIGURES ARE SHOWN TO NEAREST HUNDRED—WITHOUT LAST TWO ZEROS. PLACE DECIMAL POINT AFTER THOUSANDS. COMPUTE PERCENTAGES ONE PLACE BEYOND THE DECIMAL.

DEPARTMENT		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
		SALES SEASON			SALES THIS MONTH		ADJUSTED PLANNED SALES THIS MONTH	ACTUAL SALES MONTH TO DATE		ESTIMATED SALES BAL. OF MONTH	PLANNED STOCK END OF MONTH	ADJUSTED PLANNED STOCK END OF MONTH	COMMITMENTS	CANCELLATIONS	STOCK & INVOICES LAST YEAR	STOCK & INVOICES TODAY	OUTSTANDING ORDERS THIS MO. DELIVERY	OPEN TO BUY RETAIL 9+11 MINUS 15+16	ADJUSTED PLANNED PURCHASES NEXT MONTH	ORDERS FUTURE DELIVERY		OPEN TO BUY END OF FOLL. MONTH	MDSE. RECEIVED AND CHARGED MONTH TO DATE	INITIAL MARK UP %			MARK DOWNS			GROSS MARGIN PERCENT SEASON TO DATE TO FIRST OF MONTH		SALES FOLLOWING MONTH			
		TO DATE	TO FIRST OF MONTH																					MONTH TO DATE ACTUAL	SEASON TO DATE AT BEGINNING OF MONTH		SEASON TO DATE AT BEGINNING OF MONTH		MONTH TO DATE						
NO.	NAME	THIS YEAR	LAST YEAR	% CHANGE	LAST YEAR	ORIG. PLAN		THIS YEAR	LAST YEAR											NEXT MONTH	ALL OTHERS				ACTUAL	PLAN	$	%	$	THIS YEAR	LAST YEAR	PLAN	LAST YEAR		
159	Glassware	11.0	10.6	3.8	12.3	13.0	15.5	11.7	10.9	3.8	88.0	88.0	7.0	.2	58.7	69.6	3.0	19.2	13.0	2.9	4.1	10.1	3.8	44.9	45.7	46.0	1.0	4.6	.5	43.2	43.0	18.0	7.1		

FIGURE 32. Weekly Merchandise Report.

umn 9). In the example, the total stock requirements are \$88,000 + \$3,800, or \$91,800. Of this, \$72,600 is on hand and on order. Therefore, the buyer has \$19,200 open-to-buy at retail. This may be reduced to cost by applying the planned markup percentage in column 25. This form does not allow for planned markdowns, but actual markdowns taken do increase the O.T.B. (open-to-buy) for they reduce the stock on hand, column 15, and thus increase the difference between the total stock requirements and the commitments to date.

Columns 18, 19, 20, and 21 on the form allow for advance buying. In the example, of \$13,000 planned purchases for October, the buyer has already ordered \$2,900 worth, leaving an open-to-buy of \$10,100 (column 21). He has also placed orders for even later delivery of \$4,100. The other columns are self-explanatory and provide valuable data to guide in the marking and remarking of merchandise.

A form similar to the one presented is made out in most department stores for the use of the merchandise manager. Where there are divisional merchandise managers, the departments reporting to each should be grouped on separate sheets. At the same time, each buyer is given a report carrying much the same information but limited to the figures of his department. See Figure 33.

A new, more flexible control method.[4] A criticism of the above typical planning procedure is that it puts undue emphasis on the stock at the end of the period and may neglect the requirements of the next period. For example, where it takes two weeks for delivery, after the middle of a month the chief buying activity of a buyer should be devoted to placing orders for next month's delivery, and an open-to-buy for the balance of the current month has little significance. For fashion merchandise that is purchased weekly, there is a tendency to adopt another method of purchase planning based on keeping the stock on hand and on order equal to a certain number of weeks' supply. For example, in a millinery chain, it is desired to carry about 2 weeks' selling supply in the stores at all times; 1½ weeks are allowed for delivery, and weekly buying budgets are

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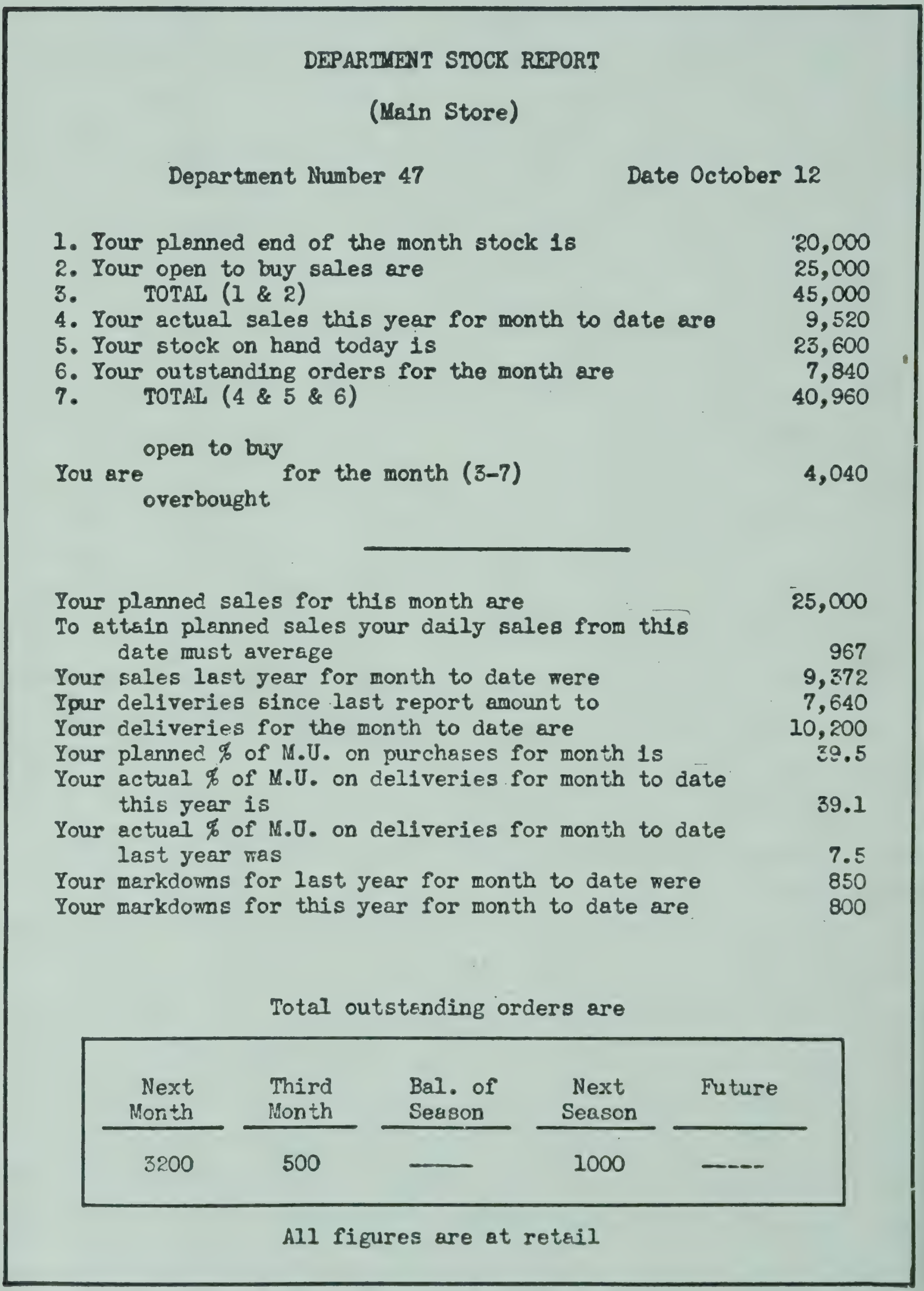
[4] This method of control is more suitable for unit control than for dollar control and is discussed more fully in Chapter 24.



DEPARTMENT STOCK REPORT

(Main Store)

Department Number 47 Date October 12

1. Your planned end of the month stock is	20,000
2. Your open to buy sales are	25,000
3. TOTAL (1 & 2)	45,000
4. Your actual sales this year for month to date are	9,520
5. Your stock on hand today is	23,600
6. Your outstanding orders for the month are	7,840
7. TOTAL (4 & 5 & 6)	40,960

You are open to buy / overbought for the month (3-7) 4,040

Your planned sales for this month are	25,000
To attain planned sales your daily sales from this date must average	967
Your sales last year for month to date were	9,372
Ypur deliveries since last report amount to	7,640
Your deliveries for the month to date are	10,200
Your planned % of M.U. on purchases for month is	39.5
Your actual % of M.U. on deliveries for month to date this year is	39.1
Your actual % of M.U. on deliveries for month to date last year was	7.5
Your markdowns for last year for month to date were	850
Your markdowns for this year for month to date are	800

Total outstanding orders are

Next Month	Third Month	Bal. of Season	Next Season	Future
3200	500	———	1000	-----

All figures are at retail

FIGURE 33. Department Stock Report.

set. Thus, the total stock must be built up to 4½ weeks' supply (2 + 1½ + 1). Each week the probable sales for the coming 4½ weeks are estimated and the stock on hand and on order subtracted to determine what to order for the week. For example, if sales for the coming 4½ weeks are estimated at $4,500, if $2,000 are on hand and $1,500 are on order, the O.T.B. is $1,000 for the week. Adjustments may be made in the factors to allow for a faster turnover in busy seasons and a slower turnover in dull ones.

The advantage of this method of planning is that it controls all orders placed, not simply orders placed for delivery during the balance of a month. With the closing stock method, the O.T.B. becomes smaller toward the end of each month and may allow for no purchasing late in the month, if purchases early in the month were heavy. Again, the weeks' supply method provides some open-to-buy each week and a steady flow of goods. But the maximum is not applicable to lines in which a portion of seasonal requirements is ordered far ahead. Also, by maintaining a constant ratio between sales and stocks, it may build up the stock too high in peak periods and cut it too low in dull ones.

Breakdown of Open-to-Buy

The dollar open-to-buy for each department should be broken down at the first of each week or month into weekly or monthly buying plans that show the distribution of the allowance by merchandise classification, price lines, and sometimes by such factors as vendor, color, and size. As actual orders are placed, they should be checked off against these plans so that a buyer will have an up-to-date picture of when he should make further commitments and when he should stop buying.[5]

When past sales and stock records are available by classification, merchandise plans may be made out by classifications as well as by department units.

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[5] See Figure 55, Chapter 24, for a suitable form.

Purchase Plan by Classification

Department: Gloves				Total Planned Purchases	February 1—July 31					
	Planned Season Sales	Planned Stock Feb. 1	Planned Stock July 31		Planned Purchases by Months					
					Feb.	Mar.	April	May	June	July
1. Silks	$15200	$10000	$11160	$16360	00	00	5730	5730	2450	2450
2. Cotton, lamb	18900	13000	13560	19460	5640	3890	5640	3890	200	200
3. Kid, suede	21600	15000	10930	17530	7890	3860	4380	880	350	170
4. Cape	600	650	630	580	400	60	60	60	00	00
5. Mocha	400	500	490	390	270	40	40	40	00	00
6. Lined, fur trimmed	200	350	150	00	00	00	00	00	00	00
7. Novelties	5100	4000	1820	2920	00	00	1750	1170	00	00
8. Children's	1400	1500	1260	1160	820	120	110	110	00	00
Total	63400	45000	40000	58400	15020	7970	17710	11880	3000	2820

FIGURE 34. Purchase Plan by Classification.

It is not common, however, to prepare a complete six-month plan for each classification. Some stores plan by classification stocks for the beginning and end of each season, and sales. Purchases are then derived for the whole season but not for each month by the formula: Stock end + Sales — Stock beginning. This figure may be next apportioned to months on a basis of expected requirements. Orders placed in each classification may then be subtracted to find the open-to-buy in each. See Figure 34.

In other stores, no formal open-to-buys are computed by classification, but the actual results by classification are analyzed, and corrective action is taken. For example, an analysis may show the following:

Class	*Sales for Six Months*	*Stock (average)*
A	20%	18%
B	12	24
C	36	18
D	27	20
E	5	20
Total	100%	100%

It is obvious that stocks are not well balanced to sales. Twenty per cent of the stock (classification *E*) yields only 5 per cent of the business, and 18 per cent of the stock brings in 36 per cent of the business. Too much stock is invested in classification *E* and probably not enough in classification *C*, where an analysis of want slips may show many lost sales.

REVIEW QUESTIONS

1. What is an open-to-buy control?
2. Distinguish between orders for current and for future delivery in connection with open-to-buy control.
3. What are the two ways to calculate the open-to-buy?
4. What information should be assembled when open-to-buy is to be calculated?
5. What are six ways to increase open-to-buy?
6. Explain a variation of open-to-buy control based upon a predetermined number of weeks' supply.

7. What are the advantages of this method?
8. What are its disadvantages?
9. How should the open-to-buy be broken down?
10. Explain a way to plan purchases and derive open-to-buy by merchandise classification.
11. How may a comparison of actual sales and stocks by classification help to distribute the open-to-buy intelligently?

22

How to Control Unit Stocks Through Sales Analysis

Unit Control Methods

Unit control is an organized method of determining, analyzing, and controlling sales and stocks in terms of units. The records are kept in terms of units or pieces of merchandise, as distinct from dollar values. Other unit data that are commonly analyzed are: purchases, outstanding orders, customer returns, price changes, and customer want slips. All unit control involves the following steps: (1) determination of the best type of system for each classification of merchandise; (2) daily or periodic recording of the facts; (3) daily, weekly, and monthly summaries arranged for convenient analysis; (4) analysis by the merchant; and (5) control of operations in the light of the analysis.

The purposes of unit control are: (1) to control buying so that units will be stocked in proportion to sales and (2) to control selling, so that the proper promotional emphasis may be given to each type of item in the light of its rate of sale and quantity on hand. This includes the repricing of the merchandise.

There are two main classes of systems used in connection with unit control: the *sales analysis systems* and the *physical inventory systems.* Under the former, sales are classified by units each day; that is, the records of each day's sales are sorted and tabulated by such factors as classification, price line, material, color, size, and style number. Frequently, a perpetual unit inventory is maintained—that is, the daily sales of each unit are subtracted from the record of the previous amount on hand, to indicate the current book inventory. The formula used for this purpose is:

Former book inventory + Subsequent purchases —
Sales = New book inventory.

Under the physical inventory system, the stock is counted at intervals and the sales are derived by the formula:

Former physical inventory + Subsequent purchases
— New physical inventory = Estimated Sales.

Usually the counts are taken at periodic intervals such as every two weeks, but in some cases the counts are recorded only when a visual inspection of the stock indicates that a danger point has been reached.

There are many variations of the two basic systems and a staggering number of different forms used in connection with them. It is most important to choose the type of system and the variation of the type best suited to give the individual merchant the facts that will help him to merchandise more intelligently. The best systems are those that are tailor-made, by someone who understands the principles, to fit a specific situation. Many unit control systems have failed because the store management lifted them bodily from another organization and did not adapt them to the local need.

On the other hand, there is danger in a departmentized store in allowing every buyer to follow his own whims in regard to unit control. Under the pressure of other duties, buyers may fail to keep records that would be helpful and may depend on memory, which is often faulty; and, if they do introduce a system, they are likely to "lift" it from elsewhere. Accordingly, many large stores find it desirable to have a unit control manager to work with each buyer to develop the most suitable system and sometimes to assume the responsibility for the clerical work of record-keeping involved.

Choice of control method. The sales-analysis system is adapted to the control of style merchandise where it is important to keep a daily watch on sales trends, where the average unit sale is large enough to warrant the expense, and where shortages must be checked by comparing book with actual inventory figures. The system is probably not desirable where the average sale is very small and the number of sales very large.

The physical inventory control system is adapted to the control of staples, or "never-out merchandise." This is merchandise that is regularly reordered during a season. Goods of low unit value are also so controlled. This system is cheap to operate but does not provide day-by-day information, nor does it control shortages. For the majority of merchandise, however, the physical-inventory system is to be preferred to the sales system because of its simplicity and economy. Sales analysis is commonly limited to clothing and home furnishings in the middle and upper price ranges.

Analyzing Unit Control Data

A merchant keeps a record of every style of hat handled. At the end of one day, price ticket stubs and other memoranda coming to his desk showed the following relative to style #245:

Sold	7
Received	6
Returned from customers	1
Returned to vendor	3
Transferred to branch store	4

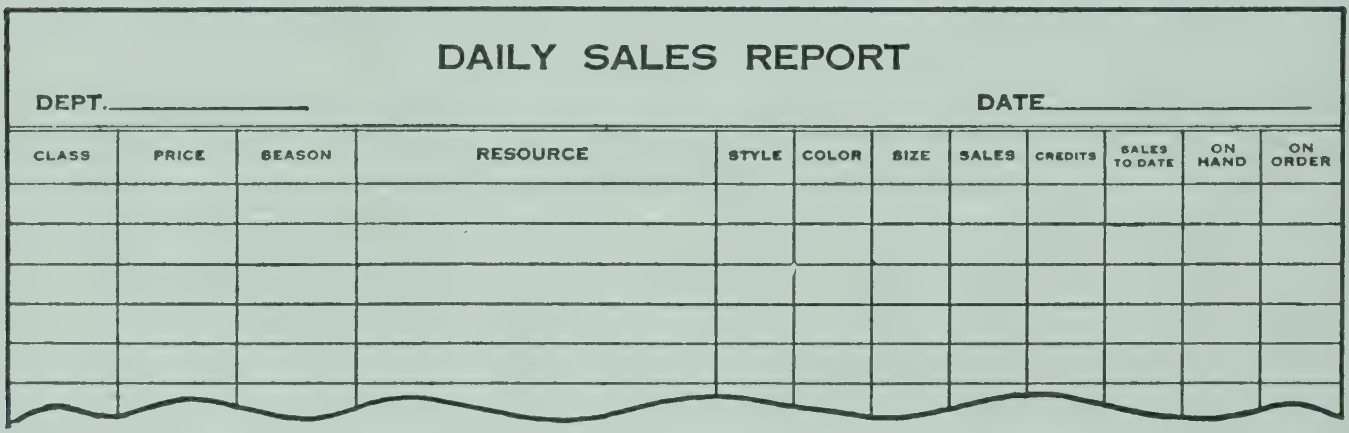
The control card revealed that 25 were on hand at the close of business the day before. He then computed the present stock as follows:

$$25 + 6 + 1 - (7 + 3 + 4) = 32 - 14 = 18$$

If he wishes to reorder whenever the stock falls below 20 pieces, he should at this time place a reorder.

Sales Analysis Methods

The particular factors to be analyzed in connection with the daily sales analysis methods depend upon the nature of the goods. In general, those factors that are most important from the standpoint of the customers for the goods in question are those that are recorded. In some cases it is enough to record sales, stocks and outstanding orders by merchandise classification and price line only, without consideration of other details, such as style and color. In other lines, such as shoes, for example, it may be desirable to record classification (sport, street, and evening), material (kid, suede, calf, satin, patent, and so forth), color, type (oxford, strap, pump, and so forth), heel, price line, individual style number, size, and width. Figure 35 is an example of a daily report with sales and returns analyzed by classification and price. Weekly and monthly sales analyses may also be made, such as a weekly color analysis that shows the percentage of each department's sales in each color.



DAILY SALES REPORT

DEPT.____________ DATE____________

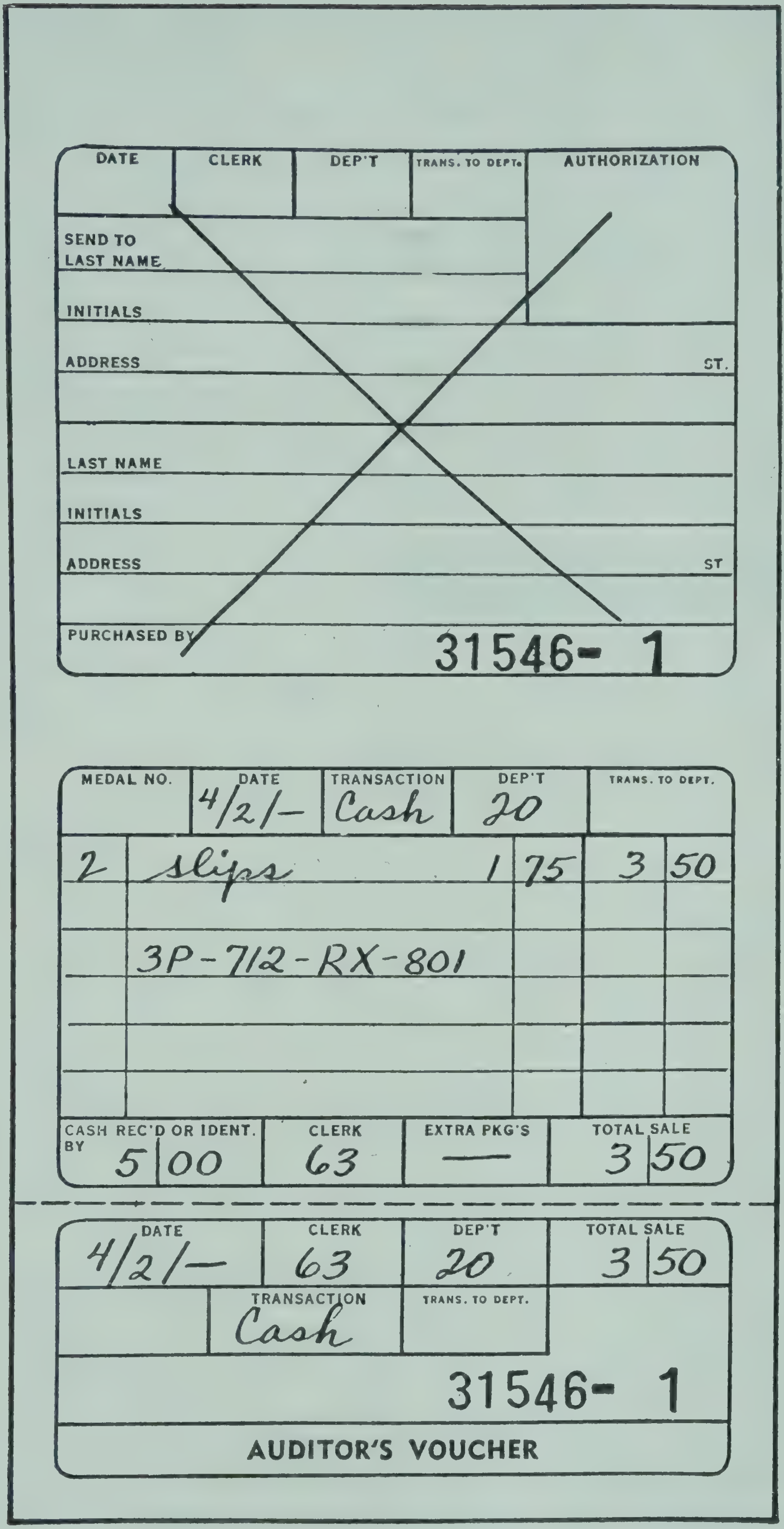
CLASS	PRICE	SEASON	RESOURCE	STYLE	COLOR	SIZE	SALES	CREDITS	SALES TO DATE	ON HAND	ON ORDER

FIGURE 35. Daily Sales Report.

Desired sales information is obtained in any one of a large variety of ways. The three most common plans are as follows:

1. The necessary factors about each item sold are recorded on each salescheck. These saleschecks are sorted and counted, and a copy of each is analyzed. See Figure 36.

2. A price ticket with a stub is attached to each article, and the stub is removed at the time of sale. It carries all the necessary information and can readily be sorted. See Figure 37.



DATE	CLERK	DEP'T	TRANS. TO DEPT.	AUTHORIZATION

SEND TO
LAST NAME

INITIALS

ADDRESS ST.

LAST NAME

INITIALS

ADDRESS ST

PURCHASED BY

31546- 1

MEDAL NO.	DATE	TRANSACTION	DEP'T	TRANS. TO DEPT.
	4/2/–	Cash	20	

2	slips	1	75	3	50
	3P-712-RX-801				

CASH REC'D OR IDENT. BY	CLERK	EXTRA PKG'S	TOTAL SALE
5 00	63	—	3 50

DATE	CLERK	DEP'T	TOTAL SALE
4/2/—	63	20	3 50

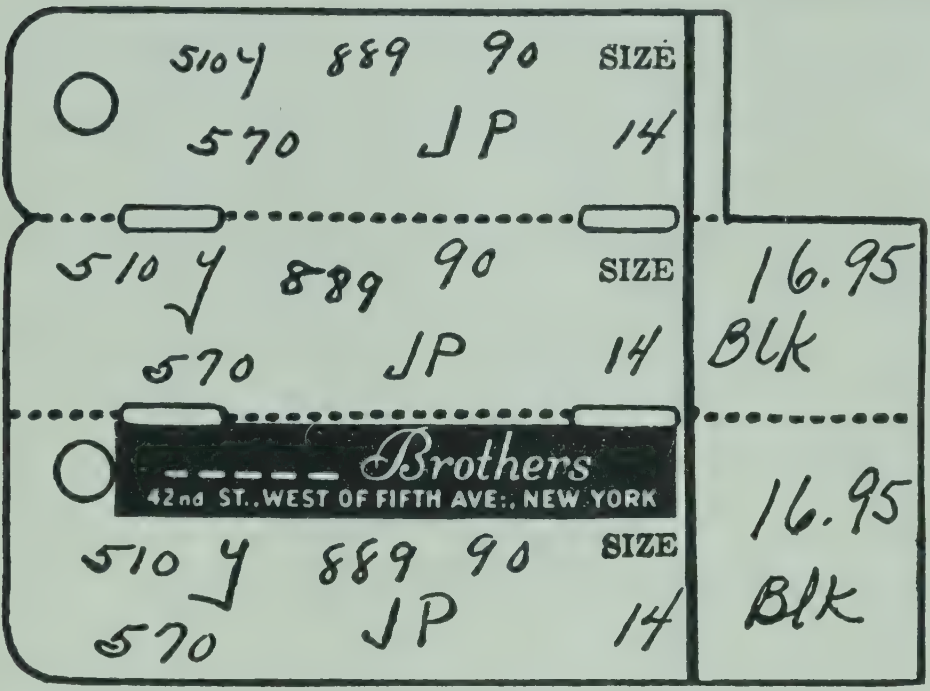
	TRANSACTION	TRANS. TO DEPT.
	Cash	

31546- 1

AUDITOR'S VOUCHER

FIGURE 36. Salescheck for Unit Control.

3. Each salesperson or floor cashier keeps a record or tally of each article sold (distinct from the saleschecks). These are turned in at the end of the day and the sales of each item totaled.



510—Mdse. rec'd May 10.
y—Season, Feb. 1–July 31, 19—
889—Mfg. no.
90—Dept. no.
570—Style no.
JP—Class. Jacket print dress
14—Size
Blk—Color, black
16.95—Retail price.
Part 1—Attached to placket of dress.
Part 2—Unit control stub, removed at time of sale.
Part 3—Attached to jacket of a two-priced costume.

FIGURE 37. Ready-to-Wear Tag.

Other methods sometimes used to obtain sales information are as follows:

4. A control card or ticket inserted in or attached to each box of merchandise. For example, a card with the data about the style in question may be placed in each box containing three pairs of hosiery. The card is removed and sorted as the last pair in the box is sold. Thus, the number of transactions reported is limited to the number of containers emptied rather than reporting each unit sold.

5. Cash register data are analyzed. There are three variations: (a) the stub of the cash register receipt may be retained, with the salesperson jotting on it information that is to be tabulated other than price; (b) supplementary keys are provided so that sales in each classification are separately tabulated by the machine; (c) salespeople write additional information necessary on the cash register tape.

6. A control card is made out for each article purchased and is kept in a stock file. As a sale is made, the corresponding file

card is removed from the stock file and transferred to a sales file that is analyzed daily.

7. A card attached to a floor sample indicates the number received in the warehouse or reserve. As each sale is made, the card is marked to indicate the balance on hand. One plan is to indicate by squares on the card the number of items originally in stock, and a cross is placed in a square as a sale is made. A variation is to have a set of stickers attached to the card, one for each item in stock. As a salescheck is written out, a sticker is removed from the card and pasted onto the salescheck. (Saleschecks from such departments are refused by the audit if the sticker is missing.)

8. Requisitions to forward stock are treated as sales. All goods are requisitioned from reserve by means of a form. The forms made out each day are regarded as the sales for the day (see page 416).

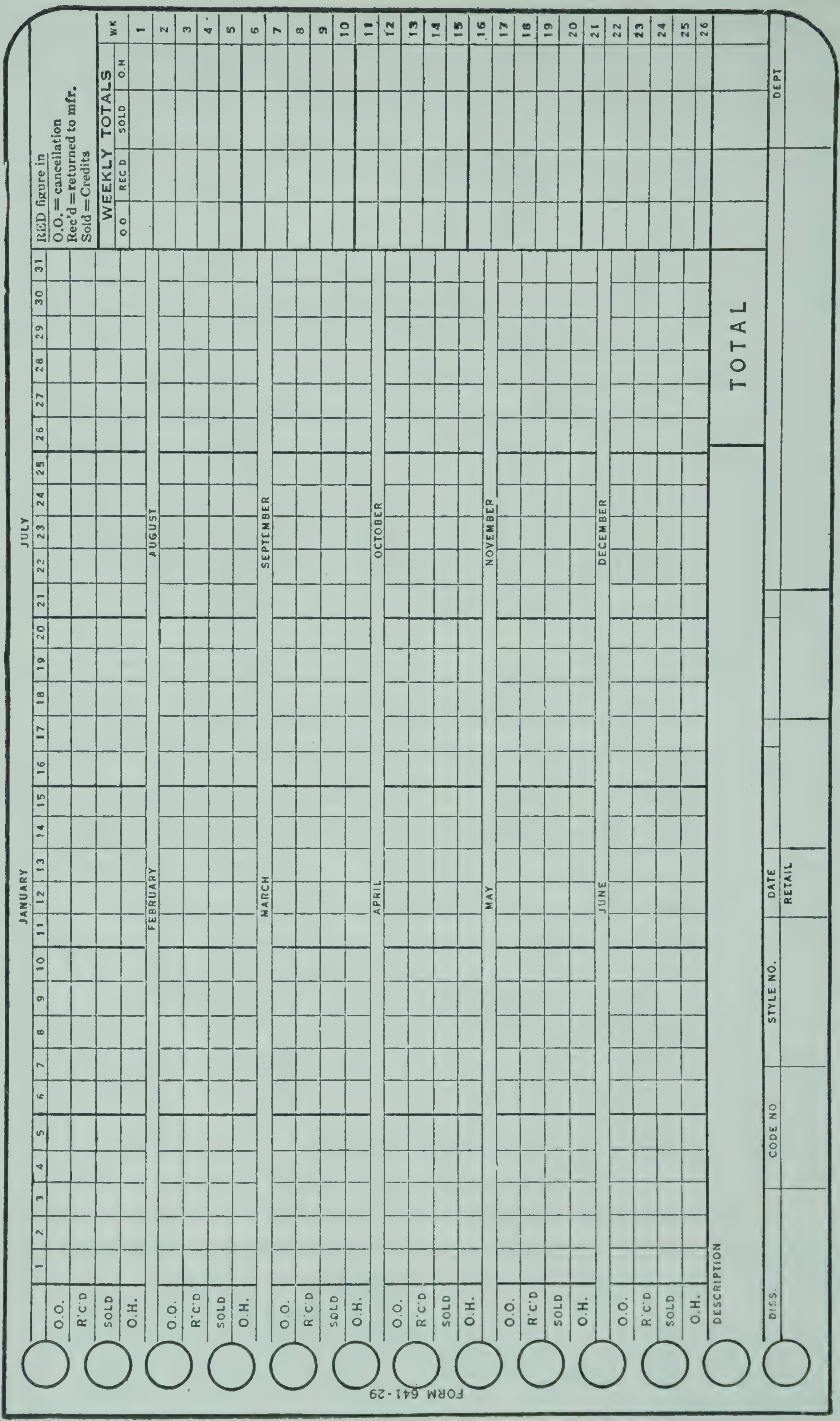
9. Sales data are put in shape for mechanical sorting and tabulating by means described later in this chapter.

In connection with the sales-analysis system, it is a frequent practice to analyze purchases in the same fashion as sales, using the invoices or markers' ticket requisition forms for the purpose.

Style control cards. Ordinarily, a record card (see Figure 38) is kept for each style number so controlled. By subtracting sales from purchases or from the sum of purchases and the last inventory, a perpetual-inventory record may be maintained. Thus, the card record may be made to show not only the sales day by day but also the stock on hand. The formula used is:

Old inventory + Purchases — Sales = New inventory.

This "book" figure may be checked against occasional counts of physical stock to determine shortage. Figure 39 shows one side of a control card devised to indicate the activity of a style number in shoes by size and width. The other side of the card is similar to Figure 38 and controls the style number as a unit.



RED figure in
O.O. = cancellation
Rec'd = returned to mfr.
Sold = Credits

WEEKLY TOTALS

O.O	REC'D	SOLD	O.H	WK
				1
				2
				3
				4
				5
				6
				7
				8
				9
				10
				11
				12
				13
				14
				15
				16
				17
				18
				19
				20
				21
				22
				23
				24
				25
				26

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
JANUARY / JULY																															
O.O.																															
R'C'D																															
SOLD																															
O.H.																															
FEBRUARY / AUGUST																															
O.O.																															
R'C'D																															
SOLD																															
O.H.																															
MARCH / SEPTEMBER																															
O.O.																															
R'C'D																															
SOLD																															
O.H.																															
APRIL / OCTOBER																															
O.O.																															
R'C'D																															
SOLD																															
O.H.																															
MAY / NOVEMBER																															
O.O.																															
R'C'D																															
SOLD																															
O.H.																															
JUNE / DECEMBER																															
O.O.																															
R'C'D																															
SOLD																															
O.H.																															

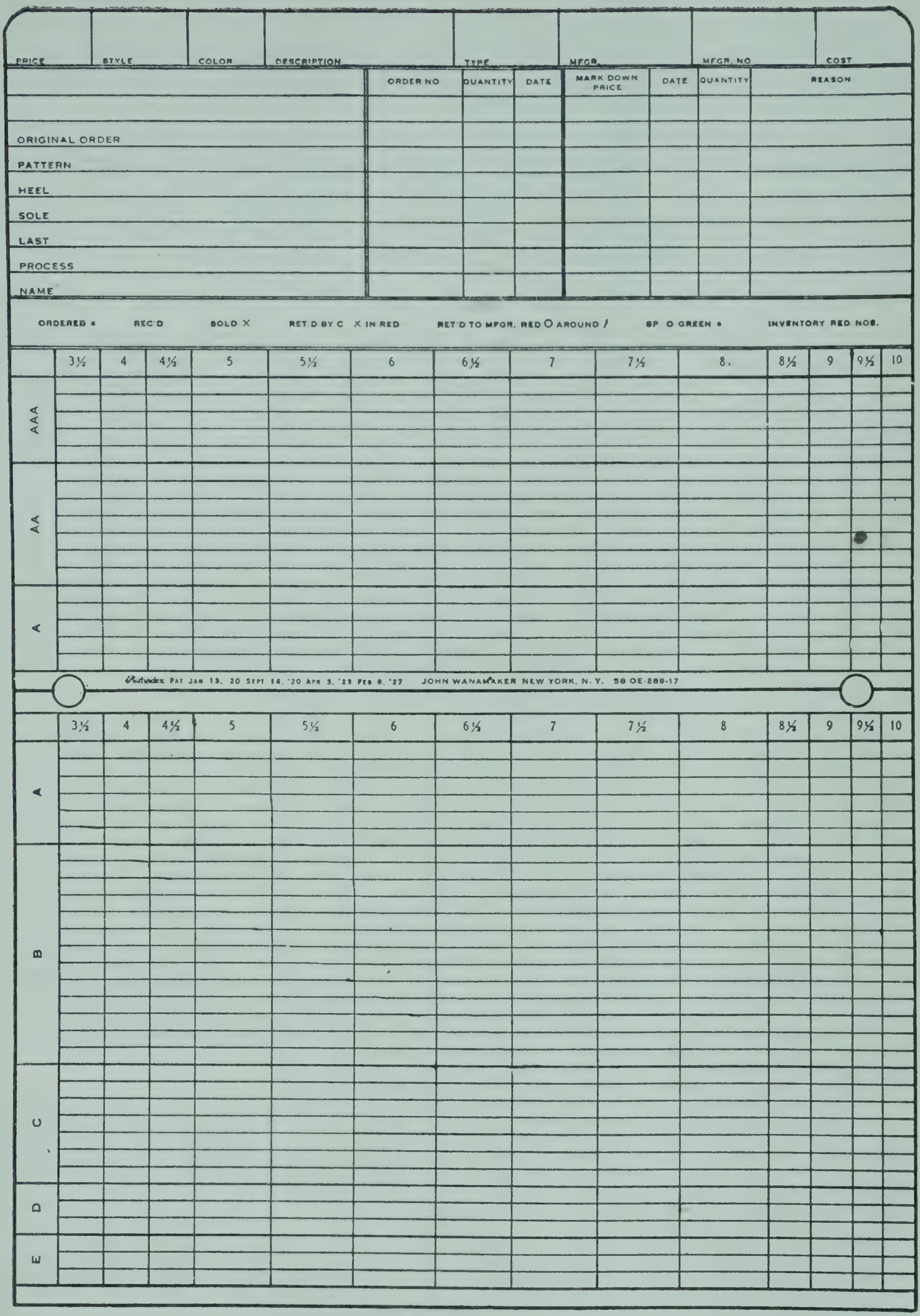
DESCRIPTION

TOTAL

DISS.	CODE NO	STYLE NO.	DATE	RETAIL	DEPT

FORM 641-29

FIGURE 38. Perpetual Inventory Control Card.



PRICE	STYLE	COLOR	DESCRIPTION	TYPE	MFGR.	MFGR. NO	COST

	ORDER NO	QUANTITY	DATE	MARK DOWN PRICE	DATE	QUANTITY	REASON
ORIGINAL ORDER							
PATTERN							
HEEL							
SOLE							
LAST							
PROCESS							
NAME							

ORDERED ▪ REC'D SOLD X RET D BY C X IN RED RET'D TO MFGR. RED ○ AROUND / SP O GREEN • INVENTORY RED NOS.

	3½	4	4½	5	5½	6	6½	7	7½	8.	8½	9	9½	10
AAA														
AA														
A														

Postindex PAT JAN 13, 20 SEPT 14, '20 APR 3, '23 FEB 8, '27 JOHN WANAMAKER NEW YORK, N. Y. 58 OE-289-17

	3½	4	4½	5	5½	6	6½	7	7½	8	8½	9	9½	10
A														
B														
C														
D														
E														

FIGURE 39. One Side of a Control Card, Adapted to Shoe Sizes and Widths.*

---

* The other side of this card shows sales and stocks for the style irrespective of sizes and widths.

The control unit. While the common practice in connection with sales analysis systems is to have a separate card for each style number, sometimes a number of styles are reported on one card, and sometimes a separate card is maintained for each color or size in a style. Since a multiplicity of cards makes for expense, the plan already referred to is a good compromise —one side of the card reports the day-by-day movement of the style as a whole and the other side shows, by stroke marks, how many of each size and/or color are on hand and how many have been sold. But this side does not reveal *when* each size or color was sold or *when* it was received.

For some merchandise, when reorders of specific styles are not feasible, or are not necessary to assure sales volume, it is not necessary to record the sales of each style number carried but simply the sales in each broader grouping—such as material, type, or price line. Thus, there might be only one card for each of the classifications deemed important.

Recapitulations. In addition to the detailed daily reports, it is desirable to prepare weekly, monthly, and seasonal summaries, called *recaps.* For example, a weekly summary of sales by classification and price line that totals all of the styles involved is most useful in balancing purchases to sales. These weekly summaries of sales are often accompanied by weekly inventories by classification and price line. In making these counts, no record is commonly made of the stock of each style number. See Figure 40.

In addition to weekly summaries, monthly summaries of the sales by *color* or *material* in all the styles are useful in revealing color or material trends. Seasonal recaps by *size* show any variation from what was formerly a normal size distribution.

An excellent plan is to prepare recaps at the same time the daily entries are made. For example, price ticket stubs for dresses are first sorted by classification and the total sales in each class entered on a classification summary; next, the sales stubs in each classification are sorted by price lines, and the number of sales in each price line in the classification entered on a price

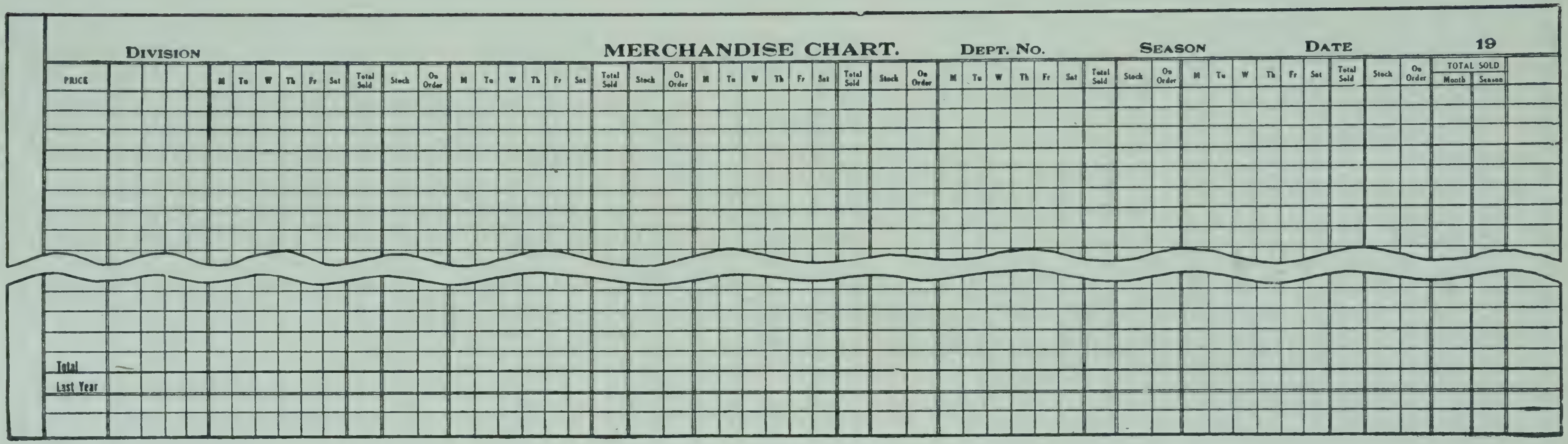

Division
MERCHANDISE CHART.
Dept. No.
Season
Date
19
Price
M Tu W Th Fr Sat Total Sold Stock On Order
M Tu W Th Fr Sat Total Sold Stock On Order
M Tu W Th Fr Sat Total Sold Stock On Order
M Tu W Th Fr Sat Total Sold Stock On Order
M Tu W Th Fr Sat Total Sold Stock On Order
TOTAL SOLD
Month
Season
Total
Last Year

FIGURE 40. Merchandise Chart.

line summary; and then, the sales in each price line are sorted by style number and entered on the individual control cards. Thus, recaps by various breakdowns are available perpetually.

Fast- and slow-selling reports. In addition to recapitulations of all the stock, it is desirable to prepare weekly or even daily both a fast-selling report and a slow-selling report. The first is a list of all style numbers that have shown unusually rapid sales activity and that must be watched carefully if adequate stock is to be maintained; and the other is a list of styles that have been inactive for the past week or month and that may need some forcing. The buyer himself or an assistant should go over all the control cards at frequent intervals and single out the styles to include on the two lists, since these are the styles in particular need of attention.

Reserve requisition control. Although the usual practice is to keep a perpetual inventory of all the stock whether on the selling floor or in the reserve-stock room (where the goods are of low unit value and regularly pass through the stock room) some stores limit control to the reserve. Daily requisitions on the reserve for forward stock are treated as sales, and a perpetual inventory is maintained as follows:

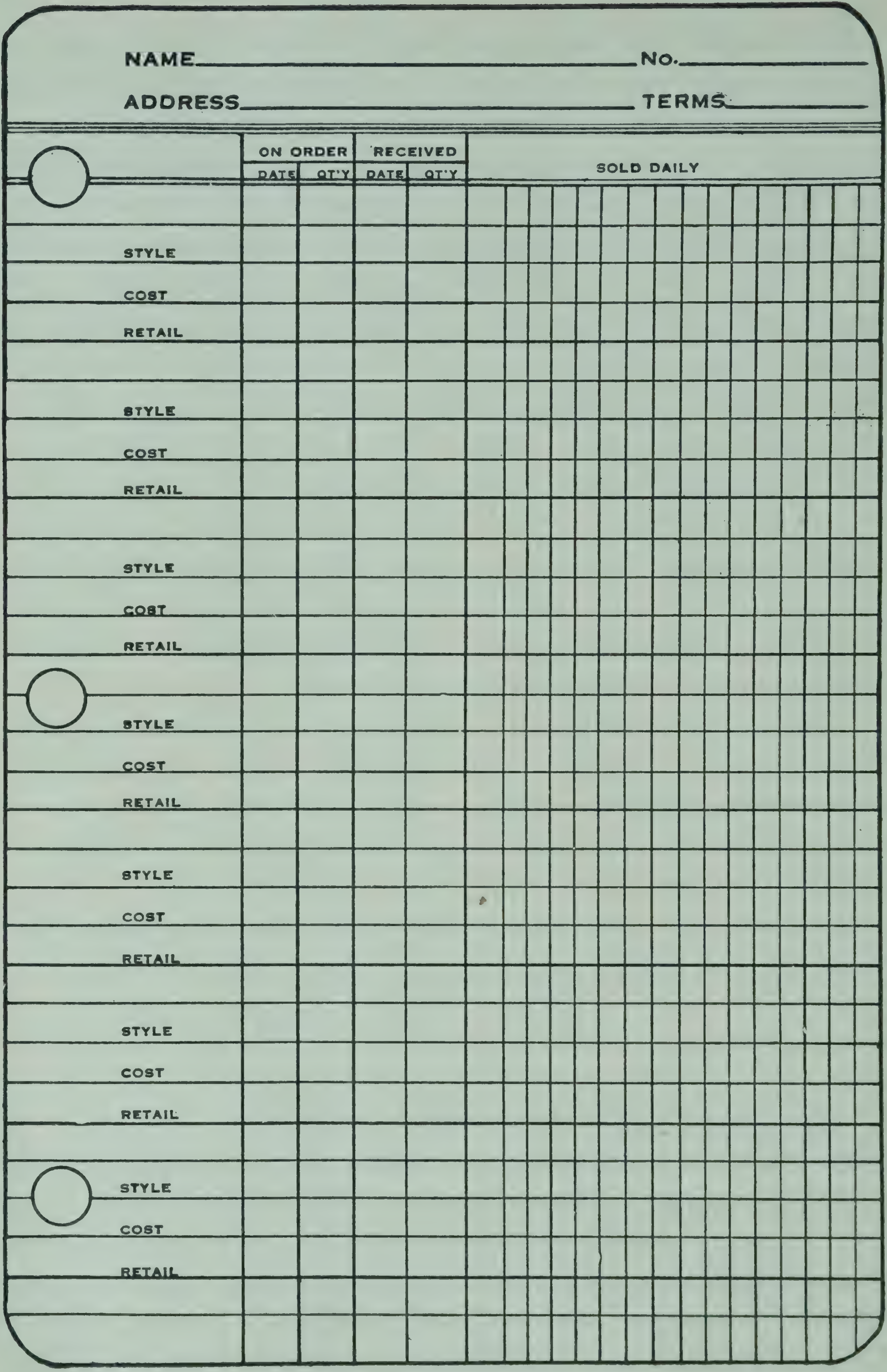
Old inventory in the reserve + Receipts into the reserve from the receiving room — Requisitions from the selling floor = New inventory.

It is assumed that the amount carried on the selling floor is very small and an almost constant quantity. Hence the sales derived from the reserve usually closely approximate the actual sales. By recording orders placed on the card, a perpetual record of outstanding orders may be maintained.

Sales analysis without perpetual inventory. The perpetual-inventory system tends to be faulty in that it is extremely difficult to avoid errors in posting sales and receipts on control cards. Most of the apparent stock shortages and overages are found to be caused by clerical errors. Accordingly, some stores have discarded the perpetual-inventory plan of sales analysis for all except very expensive merchandise. Rather, sales are analyzed daily and stocks are counted once a week as shown in Figure 40. There may be one sheet for each classification, with price lines, colors, and sizes arranged vertically. Thus there is a daily record of sales in each important merchandise grouping and a weekly record of the corresponding stock on hand. The buyer is then in a position to determine the additional purchases necessary. Such a record does not control individual style numbers, but if the volume in each is large, additional control cards, such as those shown in Figure 38, may be kept for each. In smaller stores, for many fashion goods, it is not necessary to keep records of each style, for fashions are changing rapidly and most buying represents the purchase of new styles that fall into certain classification, price, size, and color groups. For ready-to-wear styles long continued in stock, a record of styles by manufacturer (Figure 41) is useful.

Figure 42 is a variation of form 40 discussed above. Sales are accumulated daily on other records, and totals each week are transferred to this sheet as sales last week (S. W.). Thus this report is a weekly summary for a department, arranged by classification and price line.

Item control. For items of high unit value, such as expensive ready-to-wear, jewelry, or bulk goods controlled by the case, some stores make out a separate control card, not simply for each style, but for each separate piece. Thus if twelve items of one style are received, twelve control cards are made out. Figure 43 represents such a form for the control of dresses. The color of the form indicates the classification (daytime, sport, or evening), the size is printed, and the retail price, style number, color, source, and date of order and of receipt are filled in. These forms are put in a visible index file as goods are received into stock and are removed and analyzed as goods are sold. Thus, the file presents a miniature picture of the stock at all times and facilitates maintaining a balanced stock continuously. At a glance, it may be observed whether the stock in any classifi-



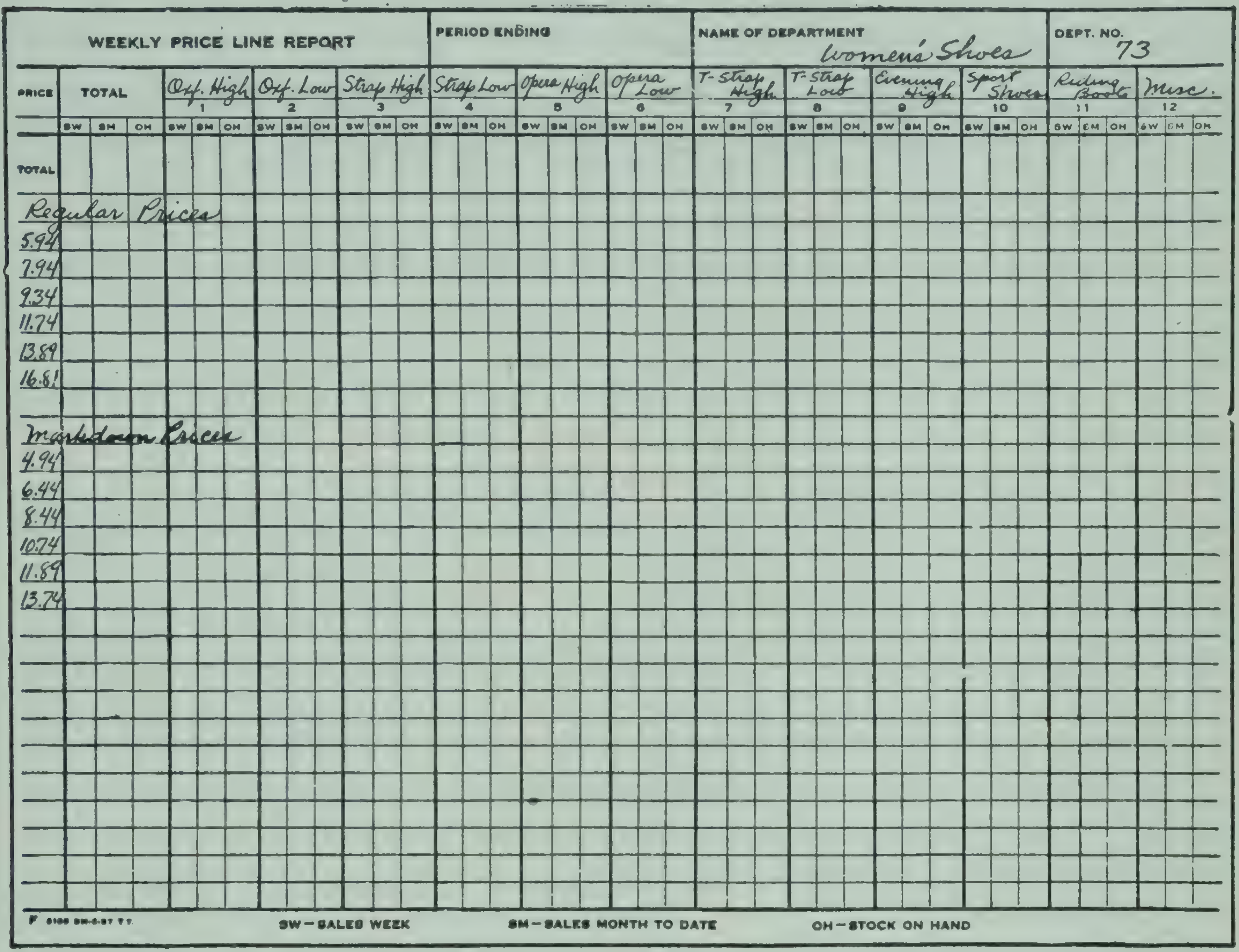
NAME ____________________ No. __________

ADDRESS ____________________ TERMS __________

	ON ORDER		RECEIVED		SOLD DAILY
	DATE	QT'Y	DATE	QT'Y	
STYLE					
COST					
RETAIL					
STYLE					
COST					
RETAIL					
STYLE					
COST					
RETAIL					
STYLE					
COST					
RETAIL					
STYLE					
COST					
RETAIL					
STYLE					
COST					
RETAIL					
STYLE					
COST					
RETAIL					

FIGURE 41. Buyer's Bible.

cation, size, price, or color is getting low. Such a control is to be recommended where the physical stock cannot be frequently inspected by the buyer or where it cannot be arranged in the order useful for control. It is thus particularly suitable for the control of goods in a warehouse when the buyer is in the store, and for the control of goods in a store when the buyer is located in the market under the plan known as "Central Buying."



WEEKLY PRICE LINE REPORT

PERIOD ENDING

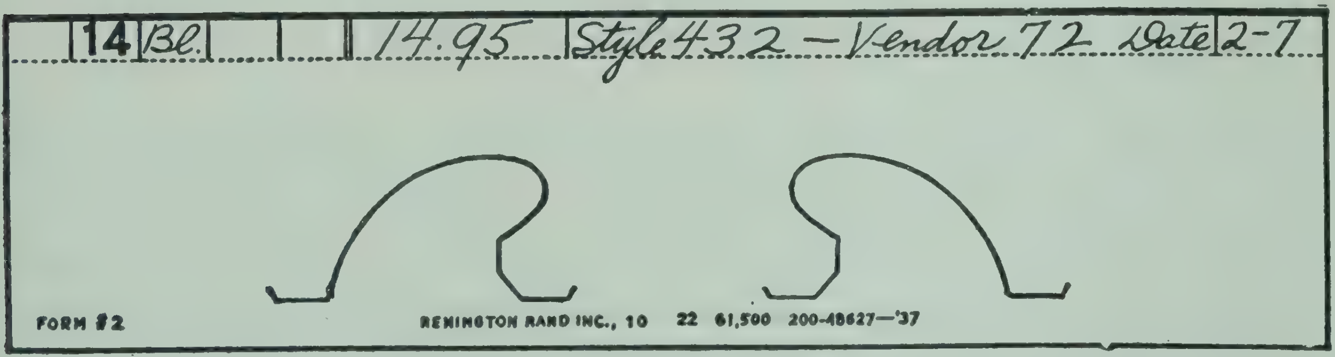
NAME OF DEPARTMENT Women's Shoes

DEPT. NO. 73

PRICE	TOTAL			Oxf. High			Oxf. Low			Strap High			Strap Low			Opera High			Opera Low			T-Strap High			T-Strap Low			Evening High			Sport Shoes			Riding Boots			Misc.		
				1			2			3			4			5			6			7			8			9			10			11			12		
	SW	SM	OH	SW	SM	OH	SW	SM	OH	SW	SM	OH	SW	SM	OH	SW	SM	OH	SW	SM	OH	SW	SM	OH	SW	SM	OH	SW	SM	OH	SW	SM	OH	SW	SM	OH	SW	SM	OH
TOTAL																																							
Regular Prices																																							
5.94																																							
7.94																																							
9.34																																							
11.74																																							
13.89																																							
16.81																																							
Markdown Prices																																							
4.94																																							
6.44																																							
8.44																																							
10.74																																							
11.89																																							
13.74																																							

SW—SALES WEEK SM—SALES MONTH TO DATE OH—STOCK ON HAND

FIGURE 42. Weekly Summary by Classification and Price Line.



14	Bl.			14.95	Style 432 — Vendor 72 Date 2-7

FORM #2

REMINGTON RAND INC., 10 22 61,500 200-48627—'37

FIGURE 43. Control Card for Each Piece of Merchandise.

Use of Sorting and Tabulating Equipment

In recent years, there has been a decided increase in the use of tabulating machinery in connection with unit control. The cost of sorting out sales information manually and of preparing summaries by various classifications has led to the development and use of mechanical devices. The most common are the International Business Machine (IBM) systems and the Remington-Rand systems.

The usual operation is to punch a tabulating card (see Figure 44) for every unit sold, taking the information from the sales check or stub of the price ticket. These cards are then sorted mechanically in any way desired, such as classification, price line, manufacturer, and style number. After sorting, the cards are run through a machine that prepares a classified report. See Figure 45. Thus, three machines are required for the operation; a puncher, a sorter, and a tabulator.

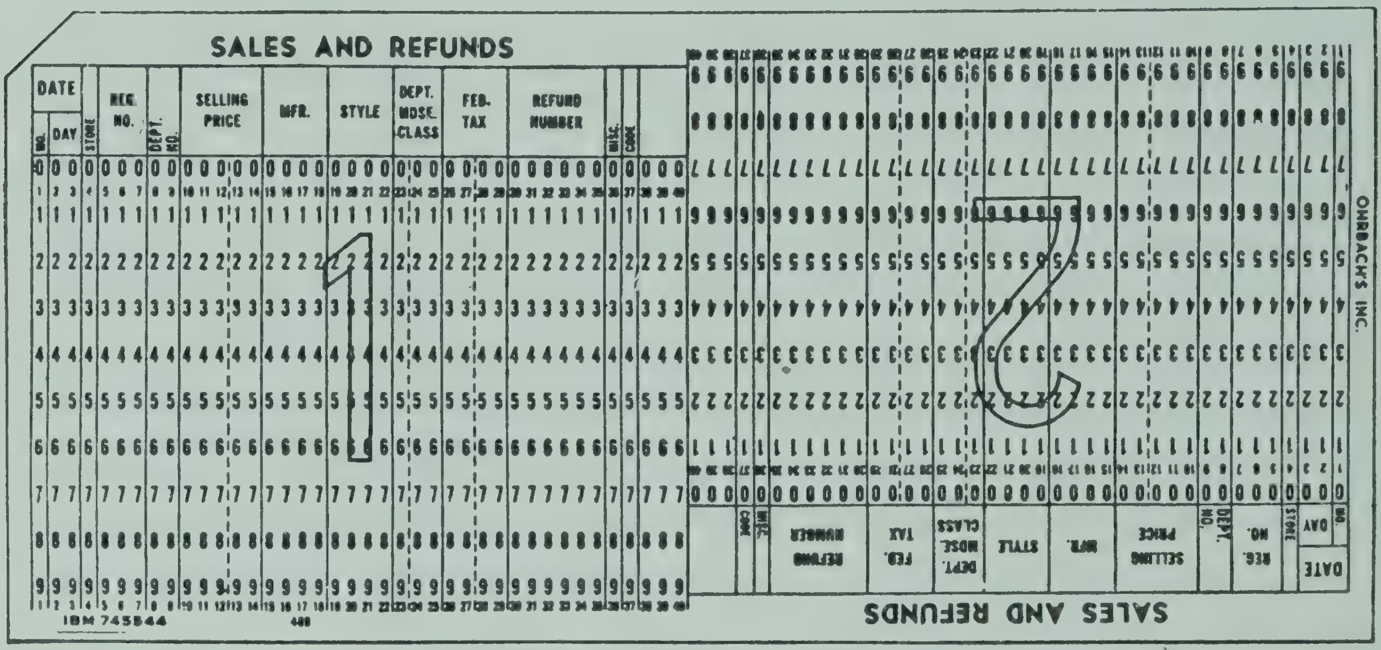
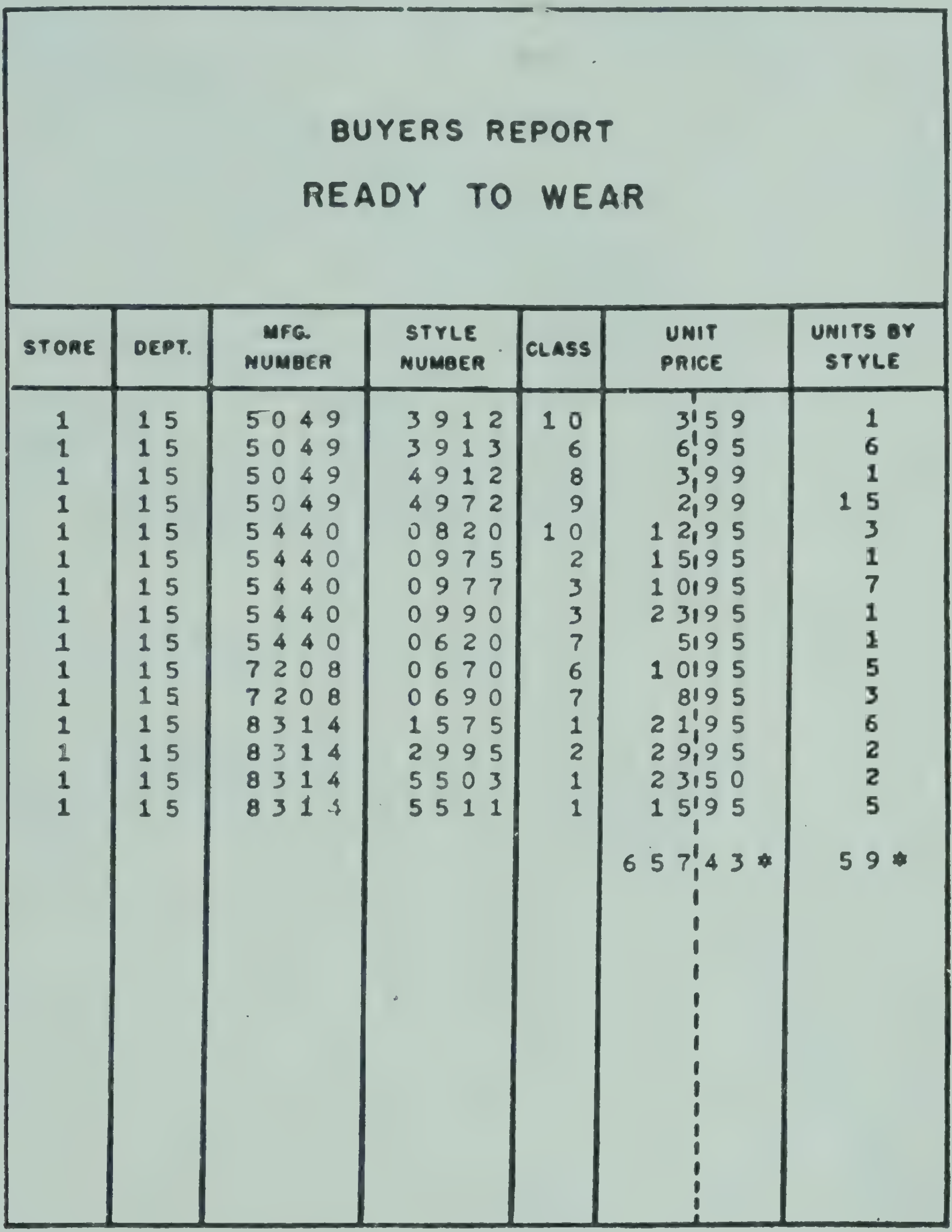


FIGURE 44. Tabulating Card.

Cards are generally punched for each unit of sale but sometimes they are punched for each unit of purchase and a daily classified record of purchases prepared. In some operations, the cards representing purchasers are sorted out as sales are made. Thus, a file of cards is maintained that is a duplicate of the physical stock. This plan greatly facilitates stock analysis.

To avoid the cost of punching a tabulating card whenever a sale is made, a card has been devised that is also a price ticket. It is made out when the goods are marked. A punched portion is removed at the time of sale and from it a standard-size punched card is prepared automatically. This is run through the usual sorting and tabulating equipment. The chief objection to the system is that six different operations are required to prepare the punched price ticket. Not only do holes have to be punched on it but information stamped on it, the card folded, and a string attached.



BUYERS REPORT

READY TO WEAR

STORE	DEPT.	MFG. NUMBER	STYLE NUMBER	CLASS	UNIT PRICE	UNITS BY STYLE
1	15	5049	3912	10	3 59	1
1	15	5049	3913	6	6 95	6
1	15	5049	4912	8	3 99	1
1	15	5049	4972	9	2 99	15
1	15	5440	0820	10	12 95	3
1	15	5440	0975	2	15 95	1
1	15	5440	0977	3	10 95	7
1	15	5440	0990	3	23 95	1
1	15	5440	0620	7	5 95	1
1	15	7208	0670	6	10 95	5
1	15	7208	0690	7	8 95	3
1	15	8314	1575	1	21 95	6
1	15	8314	2995	2	29 95	2
1	15	8314	5503	1	23 50	2
1	15	8314	5511	1	15 95	5
					657 43 *	59 *

FIGURE 45. Classified Unit Report.

A simple but novel variation of the above is the *Sortag* system that requires no elaborate sorting machinery. The price ticket (see Figure 46) has holes punched at each side and each hole is a symbol for some characteristic. For example, hole number one might represent the $10.95 price, hole number two, the $6.95 price, et cetera. Similarly, other holes are assigned to different classifications, manufacturers, colors, and sizes. When

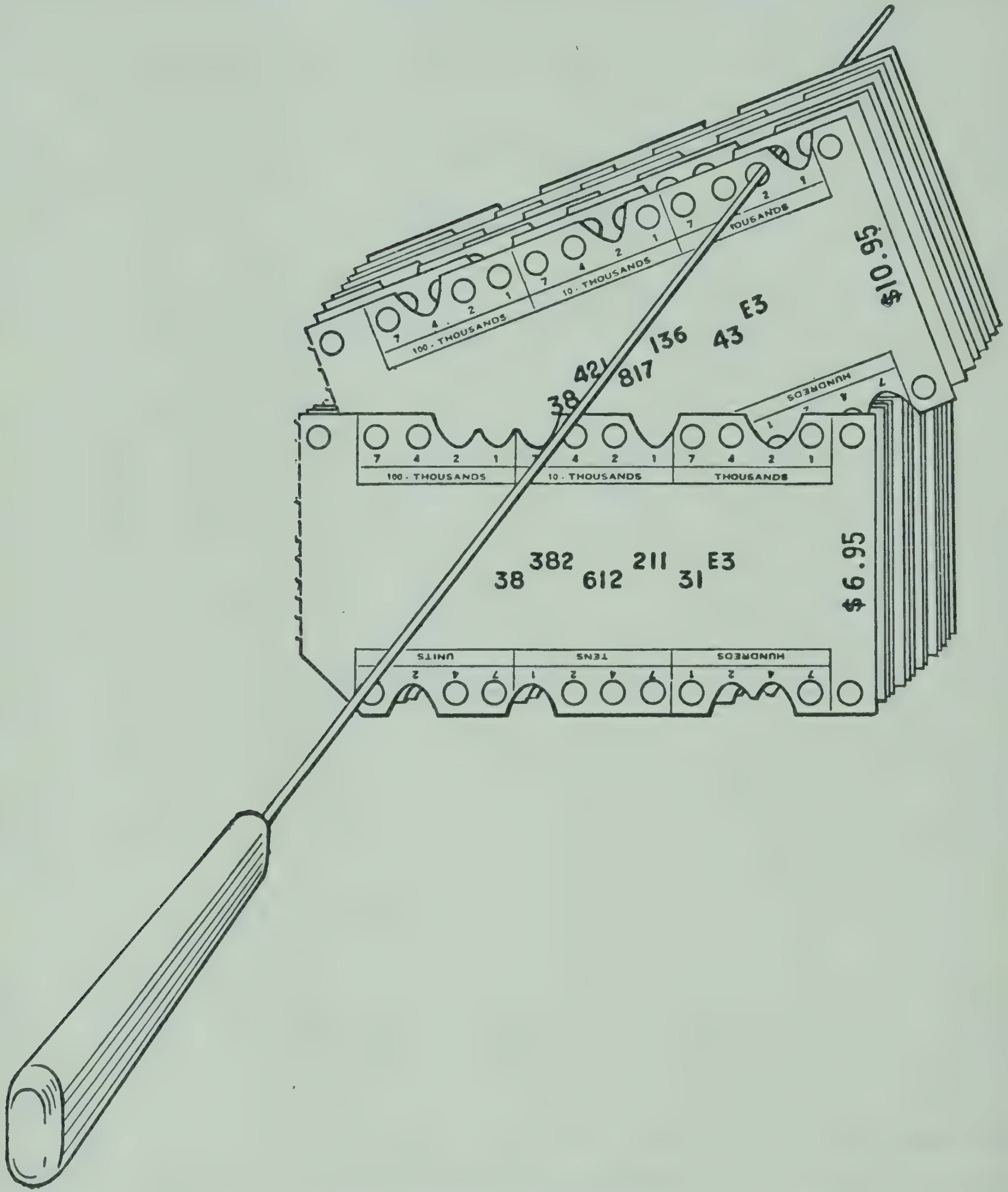


FIGURE 46. Dennison Sortag.

the goods are put into stock, the holes representing the data about the particular item being marked are cut out with a clipping machine. As sales are made, the price tickets are removed and collected.

By running a needle through the hole in the group representing the $6.95 price, for example, it is possible to lift up the cards for all prices other than $6.95, which drop out at the bottom. The $6.95 cards may be similarly re-sorted by classification, manufacturer, color, size, and any other pertinent breakdown. It is easy then to enter them on control cards and reports that are already arranged in the same order.

Another novel variation of sorting and tabulating price tickets is the use of the graphite pencil. Instead of punching holes in price tickets, codes representing the ways in which the tickets are to be sorted and tabulated are marked on the price or sales ticket with a special pencil. When run through a machine, the points marked on the cards control electrical impulses that punch holes in cards that can be sorted and tabulated by the usual method.

An even newer development is a normal size price tag for garments that is marked on a special marking machine that both prints the information desired and punches tiny holes. Every letter or number has its special combination of little holes immediately above the letter or number. These price tags are removed at the time of sale and scanned by a light ray. The light passing through the holes sets up electronic impulses that lead to the automatic punching of a tabulating card that exactly duplicates the information on the price ticket. This system requires only one operation to prepare the price tickets. Relatively small tickets may be used; there is never any discrepancy between written information on the price ticket and the holes punched; and the automatic preparation of the tabulating cards is relatively inexpensive.

REVIEW QUESTIONS

1. What is unit control? What five steps are involved?
2. What are the two purposes of unit control?
3. What are the two systems of unit control?
4. Why are tailor-made systems desirable?
5. Under what conditions is a sales analysis system to be preferred? A physical inventory system?
6. What is the objection to working out systems for every line independently?
7. What is meant by a style control card? What information does it usually contain?
8. What is meant by the *control unit*?
9. Why are recapitulations of unit control data necessary? How may they be prepared?
10. What are fast-selling reports? Slow-selling reports?
11. What is meant by reserve requisition control? Where is it best used?
12. Can a sales analysis system be operated successfully without the perpetual inventory feature?
13. What is item control? When is it desirable?
14. How may mechanical sorting and tabulating equipment be used in connection with unit control?
15. In connection with the use of tabulating equipment, in what ways may punching cards from salescheck or price ticket information be eliminated?
16. What practical difficulties are encountered in sorting saleschecks for unit control purposes?

23

How to Control Unit Stocks Through Periodic Inventory Analysis

Physical Inventory Systems

Under the physical inventory systems, no record is kept of unit sales as they occur. Rather, sales are estimated or derived from inventory and purchase records.

Visual control. The simplest form of physical inventory control is the *visual* system. Goods are stored in bins or sections holding known quantities and replenishments are made at intervals. A glance at the stock reveals the sales. For example, a bin may be devised to hold 48 packages and may be filled on May 1. If on May 8, the bin is half full, it is clear that 24 have been sold in the interval of a week. Knowing how long it takes to obtain a reorder, the buyer has all the information necessary to decide whether to reorder the goods and how much to reorder.

Rotated inventory. Since it is often impracticable to assign specific space to each item, a more common type of physical inventory control calls for periodic counting of the stock and analysis of purchases. Sales are then derived by the formula·

Former physical inventory + Purchases — New physical inventory = Sales.

This sales figure actually includes shortages.

A weakness of this system compared with the perpetual-inventory system, then, is that it does not reveal shortages.

The inventory counting is usually spread out over a period of a week or month, so that each day a portion of the stock is counted and so that each portion will be recounted at periodic intervals. Such a system is known as a tickler control or rotated inventory control. For each day there is a prepared list of articles that come up for count on that day.

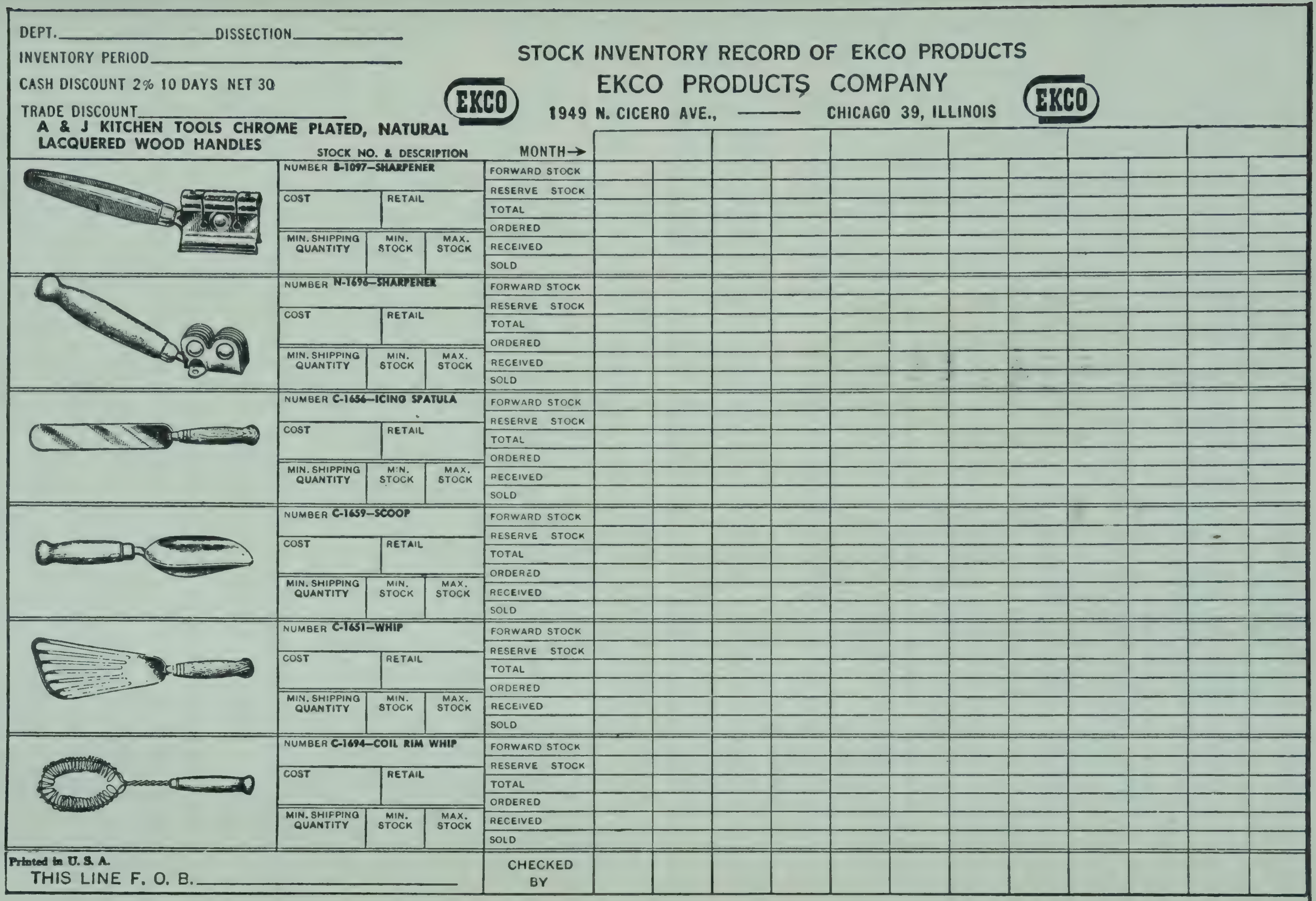
Figure 47 is an example of such a sheet provided by a manufacturer to his retail accounts. Counts may be made once a month or at any other interval desired. The minimum is the danger point at which orders should be placed. The maximum stock represents the amount that should be on hand *and on order* at the time of reorder. This maximum should not be confused with the highest point the stock normally reaches. For example, with a maximum of 36 and with 12 on hand, 24 will be ordered; but before the 24 arrive, 6 may sell. Accordingly, the stock will reach 30 when the reorder arrives. The stock on hand would reach the maximum only if no sales occurred between the time of a reorder and the receipt.

A large store has the following instructions for the use of what it calls a "never-out list" of items that should always be in stock.

METHOD OF USING NEVER-OUT LISTS

A. Each salesperson should be assigned to a certain section of the stock for which she is to be held strictly accountable.
B. Every section of the stock should be covered by some salesperson who has been definitely assigned to that stock.
C. It is important to have the department laid out by natural classifications so that there is no overlapping of responsibility on the part of the salespeople so far as stock checking is concerned.
D. The original lists should be prepared as follows:
    a. After the salespeople have been assigned their stock sections, they should make up their own Never-Out Lists from the stock itself.

    If the stock has been arranged carefully before this is



DEPT.__________ DISSECTION__________
INVENTORY PERIOD__________
CASH DISCOUNT 2% 10 DAYS NET 30
TRADE DISCOUNT__________

A & J KITCHEN TOOLS CHROME PLATED, NATURAL LACQUERED WOOD HANDLES

STOCK INVENTORY RECORD OF EKCO PRODUCTS
EKCO PRODUCTS COMPANY
1949 N. CICERO AVE., —— CHICAGO 39, ILLINOIS

STOCK NO. & DESCRIPTION

MONTH→

STOCK NO. & DESCRIPTION			MONTH→
NUMBER **B-1097—SHARPENER**			FORWARD STOCK
			RESERVE STOCK
COST	RETAIL		TOTAL
			ORDERED
MIN. SHIPPING QUANTITY	MIN. STOCK	MAX. STOCK	RECEIVED
			SOLD
NUMBER **N-1696—SHARPENER**			FORWARD STOCK
			RESERVE STOCK
COST	RETAIL		TOTAL
			ORDERED
MIN. SHIPPING QUANTITY	MIN. STOCK	MAX. STOCK	RECEIVED
			SOLD
NUMBER **C-1656—ICING SPATULA**			FORWARD STOCK
			RESERVE STOCK
COST	RETAIL		TOTAL
			ORDERED
MIN. SHIPPING QUANTITY	MIN. STOCK	MAX. STOCK	RECEIVED
			SOLD
NUMBER **C-1659—SCOOP**			FORWARD STOCK
			RESERVE STOCK
COST	RETAIL		TOTAL
			ORDERED
MIN. SHIPPING QUANTITY	MIN. STOCK	MAX. STOCK	RECEIVED
			SOLD
NUMBER **C-1651—WHIP**			FORWARD STOCK
			RESERVE STOCK
COST	RETAIL		TOTAL
			ORDERED
MIN. SHIPPING QUANTITY	MIN. STOCK	MAX. STOCK	RECEIVED
			SOLD
NUMBER **C-1694—COIL RIM WHIP**			FORWARD STOCK
			RESERVE STOCK
COST	RETAIL		TOTAL
			ORDERED
MIN. SHIPPING QUANTITY	MIN. STOCK	MAX. STOCK	RECEIVED
			SOLD
			CHECKED BY

Printed in U. S. A.
THIS LINE F. O. B.__________

FIGURE 47. Stock Inventory Record.

done, the list will follow the logical order of the stock for future checking.

b. After the original list has been made up by the salespeople, it should be checked carefully by the buyer and assistant so that the list may finally be complete and orderly.

c. The next step is for the buyer to set up a model stock for each item. The maximum and minimum quantities should be indicated in the form of a fraction, as 24/6.

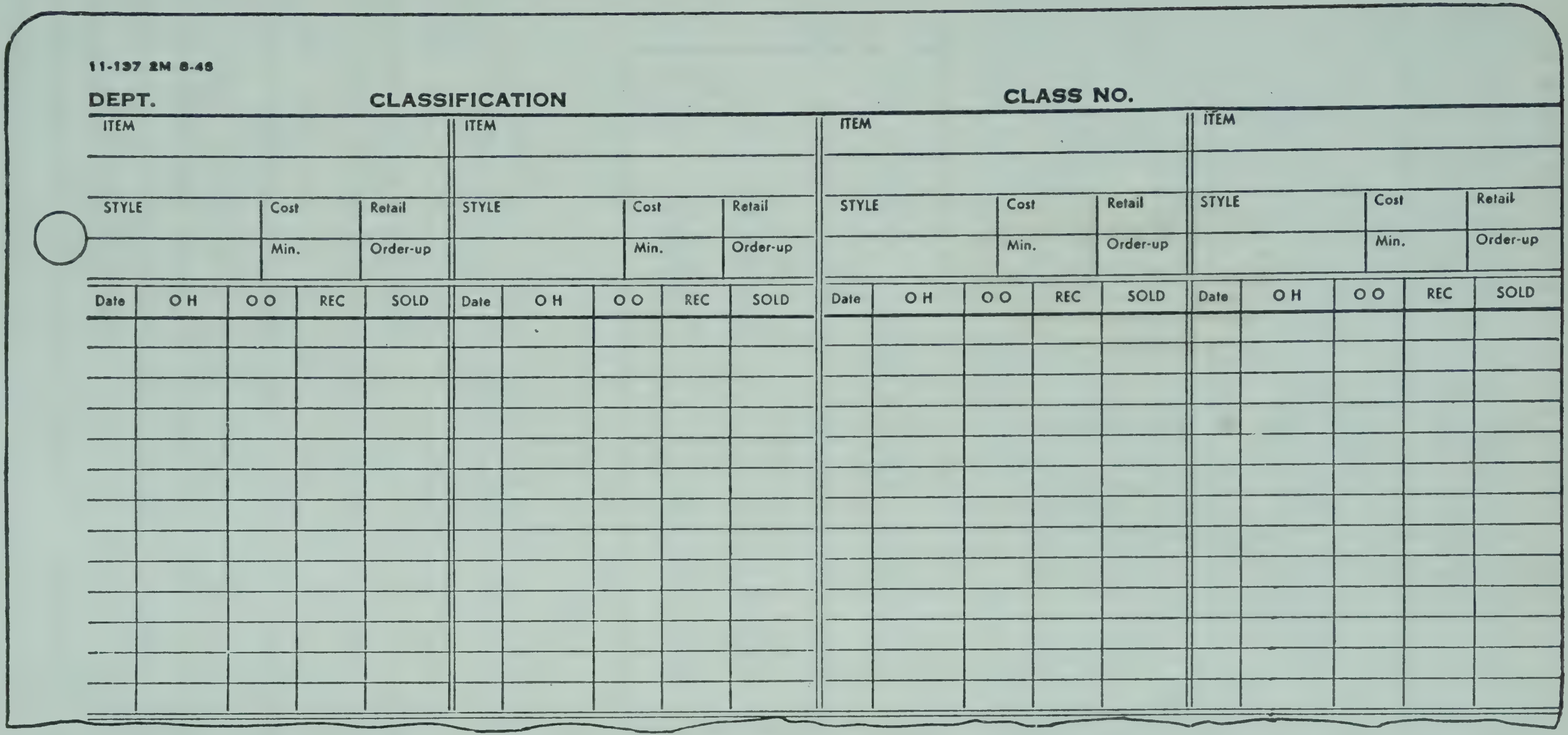
d. The final and completed lists should be copied from these original work sheets. One set of sheets for each salesperson should be bound in a book to be used as a "Work List" when the stock is to be checked. A "Master List" should be made for the buyer and for the comparison office. This makes a total of three copies of the final lists, but only the Work List is actually used in checking the stock.

e. Once a week, or more often if the buyer chooses, each salesperson should be scheduled to check her stock from her own Work List and hand in her book to the buyer as soon as it is finished.

f. If "Merchandise-Needed Slips" are used in connection with the Never-Out Lists, the buyer may have the salespeople make out the merchandise-needed slips from the Never-Out Lists as a summarized list of items that are OUT or LOW for the buyer's special attention.

g. The buyer should go over these lists carefully and promptly. It is important to catch items that are running low so that orders may be placed in time to have the reorders in stock before items are entirely depleted.

Figure 48 shows another example of a physical inventory control form. The sheet provides for the control of 12 articles, with space to inventory each article 13 times. Thus, if physical inventory is taken every two weeks, the form will last six months. The figure in the box labeled *Min.* indicates the danger point at which a reorder should be placed, should stock fall this low between regular counts. The box labelled, *Order-up,* indicates the minimum amount that must be ordered at one time. For example, on date 4/8 there may be on hand 40 units. Twelve may then be ordered and entered in the column headed



11-137 2M 8-48

DEPT. **CLASSIFICATION** **CLASS NO.**

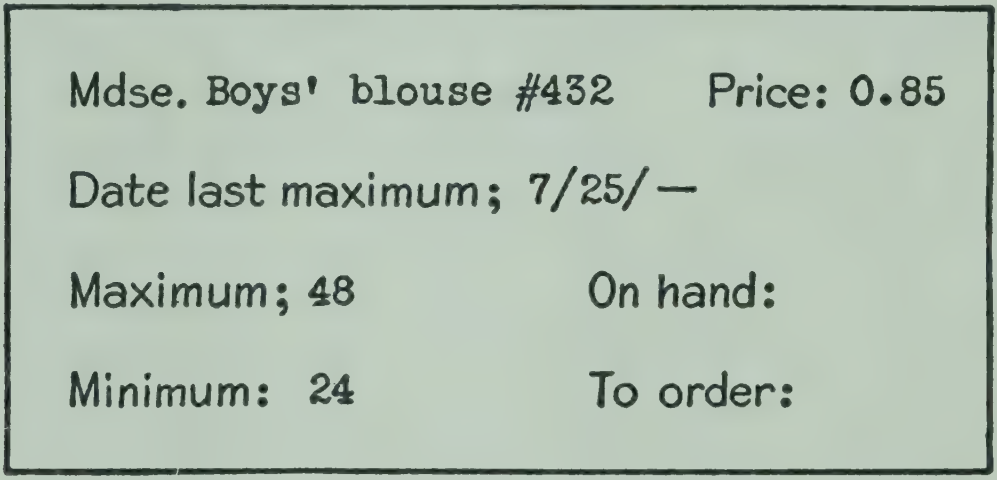
ITEM					ITEM					ITEM					ITEM				
STYLE		Cost	Retail		STYLE		Cost	Retail		STYLE		Cost	Retail		STYLE		Cost	Retail	
		Min.	Order-up				Min.	Order-up				Min.	Order-up				Min.	Order-up	
Date	O H	O O	REC	SOLD	Date	O H	O O	REC	SOLD	Date	O H	O O	REC	SOLD	Date	O H	O O	REC	SOLD

FIGURE 48. Inventory Control Form—Periodic Inventory System.

"O.O." During the ensuing two weeks, the 12 may arrive and be entered in the "Rec." column. At the count on 4/22, 36 may be found to be in stock and entered in the O.H. column. The sales may now be computed:

Old O.H. + Receipts − New O.H. = Sales
40 + 12 − 36 = 16

Minimum-control system. The minimum-control system is a variation of the physical-inventory control. No periodic counts are taken as explained above; rather a minimum stock quantity is designated for each item controlled, and whenever the supply sells down to this quantity, a ticket (see Figure 49) is forwarded to the buyer indicating that the minimum has been reached. The system is thus an intermittent-inventory system. Items are reported when they reach their minimum quantities and not at regular intervals. The term *minimum* is a technical one meaning the smallest amount of stock necessary to provide for sales between the time of placing an order and the receipt of the ordered goods. The *minimum* is not the lowest stock point, since sales will be made in the interim.



Mdse. Boys' blouse #432 Price: 0.85

Date last maximum; 7/25/—

Maximum; 48 On hand:

Minimum: 24 To order:

FIGURE 49. Ticket for Minimum Control.

To insure reporting items when they reach their physical minimum, this minimum supply is often "banded," tied with paper tape, string, or elastic band to separate it from the rest of the stock of the item. It is then apparent whenever the minimum is reached. When these low minimum quantities cannot be conveniently segregated, the ticket indicating the minimum may be attached to a point in the shelving adjoining the supply. Salespeople or stockmen may then be trained to check the actual stocks, as goods are removed, against the allotted minimum quantities.

The minimum system allows the determination of the rate of sale, as the following example indicates: A buyer may lay in a supply of 48 pieces on June 1, and designate one half the quantity, or 24, as the minimum. A ticket is made out accordingly, dated June 1 and marked 24. If this is returned to the buyer June 22, indicating that the minimum of 24 has been reached, it is apparent to him that 24 have been sold in the three-week interval and that the rate is 8 a week. With this knowledge of both stock on hand and rate of sale, the buyer has the necessary facts upon which to base his buying.

Under the minimum system, it is not essential that the minimum be set at one half the total supply, for the stock on hand when the minimum was last set and reorders received since may be recorded on the control ticket. By subtracting the new inventory from the sum of the old inventory plus purchases, the sales for the intervening period are derived and expressed on a weekly basis. In practice, the new inventory does not always agree with the minimum because of the failure or inability to turn in a report at the exact time the minimum is reached. Whenever this occurs, salespeople or stockmen are required to report the actual count as well as the predetermined minimum.

Controlling Merchandise Bought on a Seasonal Basis

A retailer's trade association reported as of June 20 that store buyers of boys' clothing had already placed 46 per cent of their orders for August through December delivery. Such advance buying indicates that there is merchandise that cannot be handled by the methods described so far for fashion goods and for staples that need be ordered only a few weeks ahead, with the vendor carrying a reserve supply.

In many of the hard lines as well as in men's and boys' wear, the buyer has to anticipate his entire season's requirements on a basis of unit control records of the corresponding season last year. For example, he may estimate that he is likely to sell in the fall and winter season 300 boys' woolen suits at $25. If he has an assortment of 60 on hand at the beginning of the season and wants 100 on hand at the end of the season, his planned purchases will be 340 suits. Next, he will decide whether any of these can be obtained as fill-ins at short notice from resources to which he gives substantial advance orders. If he estimates this figure at 65, he will plan to order 275 in advance of the season, mostly in May, June, and July. He will specify delivery dates depending upon the type of suit and his estimated monthly requirements. In this instance, the unit open-to-buy is for the season and is the difference between the total estimated requirements and the sum of the orders already placed at any given time.

Unit Control for Central Merchandising[1]

Unit control systems are frequently maintained, not in the store, but in a central buying office. Particularly in the case of dresses, millinery, shoes, and men's clothing, chains have long maintained central records of each store's stock and have made shipments to the stores in view of the information these records reveal. Recently, many groups of independent stores, largely through the agency of their resident buying offices, have emulated the chains and operate central unit controls for fashion merchandise.

Sales-analysis controls. Most of these systems are of the sales analysis type with a perpetual inventory. Stores report unit sales daily to the central office. The sorting of sales checks or price ticket stubs is generally done in the stores and a daily sales report, similar to the one already presented on page 408, Figure 35, or the sales checks themselves, mailed in. Daily reports of unit merchandise receipts (purchases) are also prepared and submitted to the central office. See Figure 50. These daily reports are commonly supplemented by weekly inventories of the stock by classification, type, price line, color, and size. See Figure 51 for a weekly inventory that provides a column for

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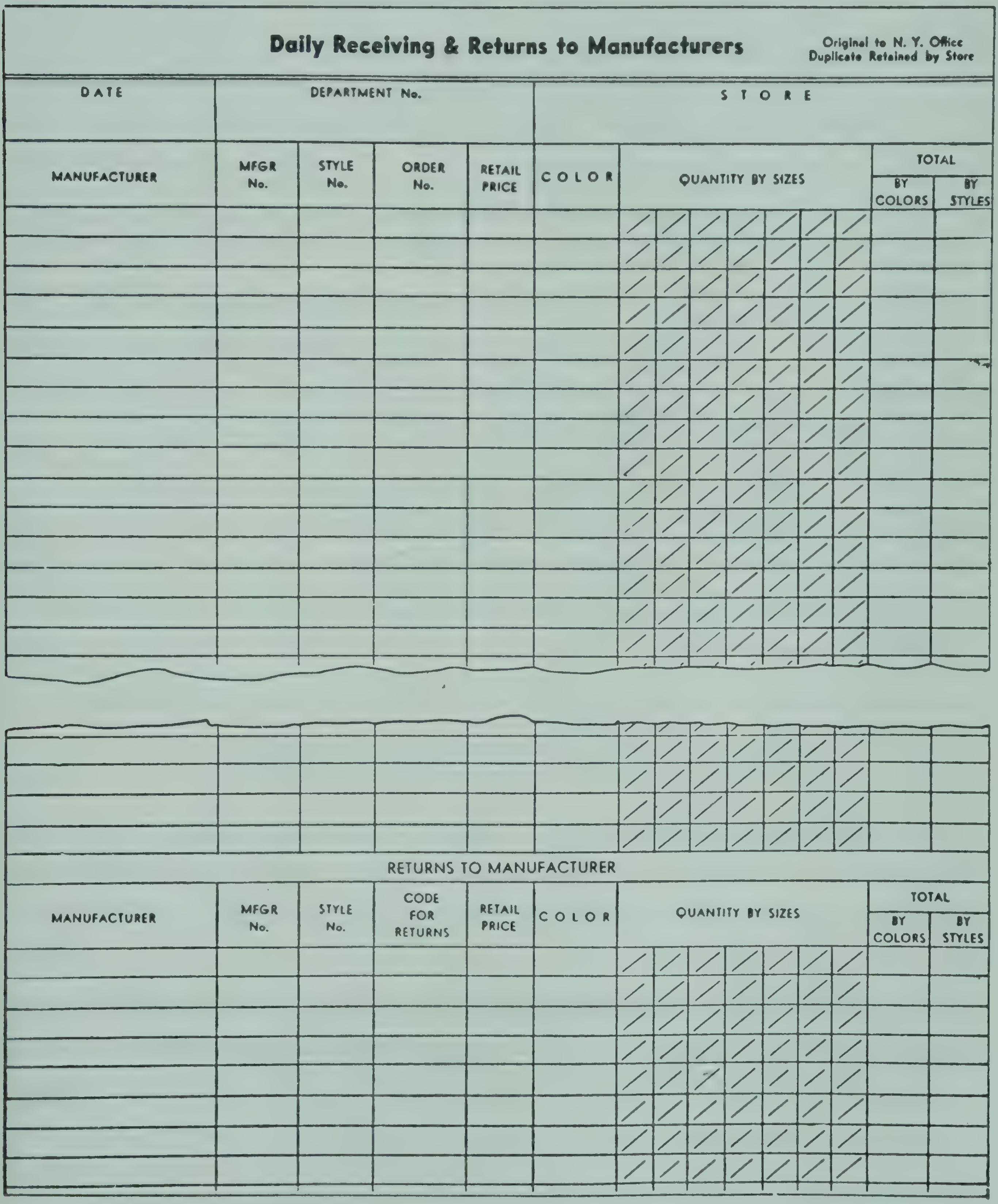
[1] For a detailed account of central merchandising organization and methods, see J. W. Wingate and N. A. Brisco, *Buying for Retail Stores,* Chapter 4. New York: Prentice-Hall, Inc., 1946.



Daily Receiving & Returns to Manufacturers

Original to N. Y. Office
Duplicate Retained by Store

DATE	DEPARTMENT No.	STORE

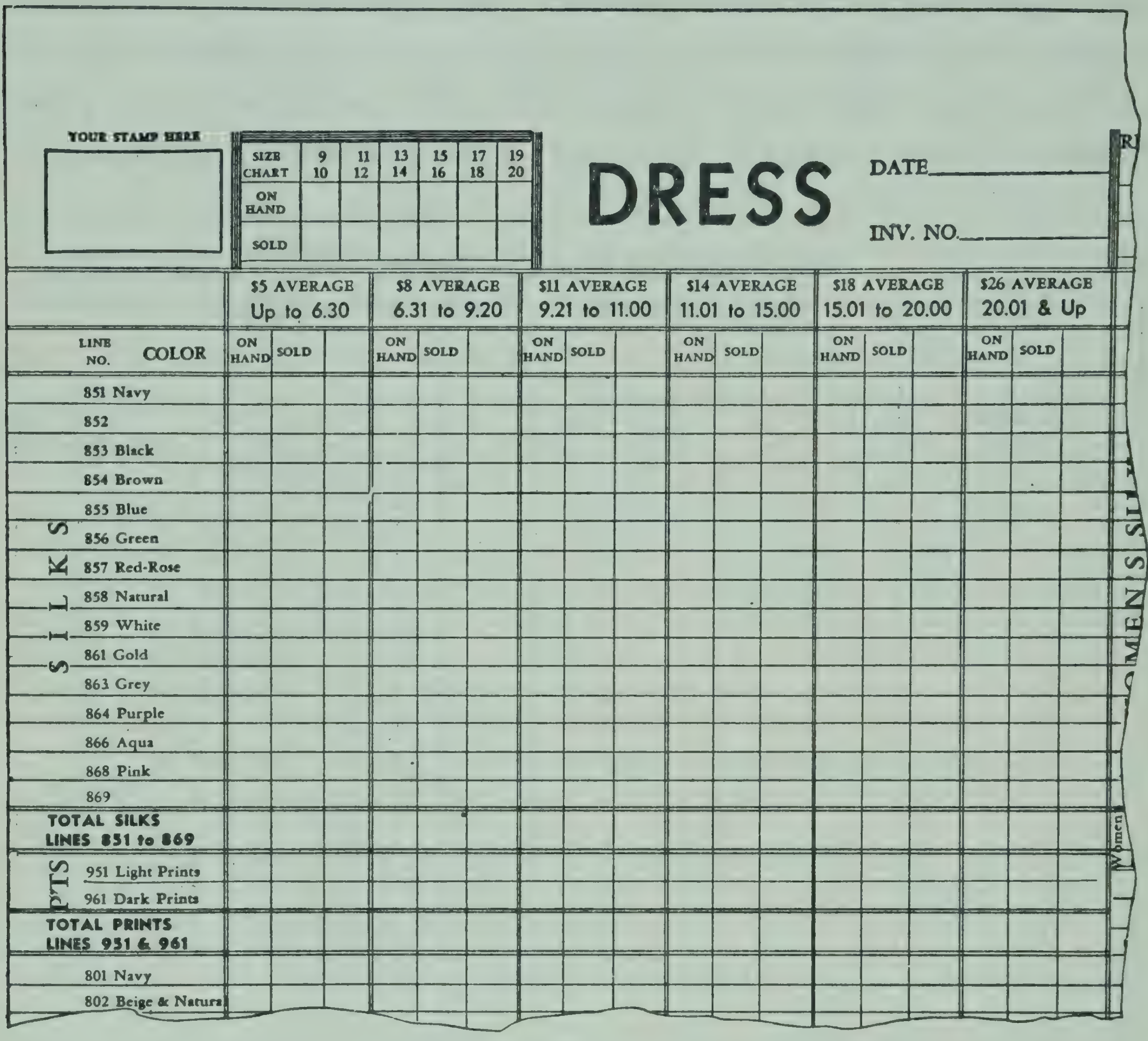
MANUFACTURER	MFGR No.	STYLE No.	ORDER No.	RETAIL PRICE	COLOR	QUANTITY BY SIZES	TOTAL BY COLORS	TOTAL BY STYLES

RETURNS TO MANUFACTURER

MANUFACTURER	MFGR No.	STYLE No.	CODE FOR RETURNS	RETAIL PRICE	COLOR	QUANTITY BY SIZES	TOTAL BY COLORS	TOTAL BY STYLES

FIGURE 50. Daily Receiving Report.

the week's sales, also, and a blank column to be used by the central office in deciding how much to send the store of each material, color, and price.



YOUR STAMP HERE

SIZE CHART	9 10	11 12	13 14	15 16	17 18	19 20
ON HAND						
SOLD						

DRESS

DATE__________

INV. NO.__________

		$5 AVERAGE Up to 6.30			$8 AVERAGE 6.31 to 9.20			$11 AVERAGE 9.21 to 11.00			$14 AVERAGE 11.01 to 15.00			$18 AVERAGE 15.01 to 20.00			$26 AVERAGE 20.01 & Up		
	LINE NO. COLOR	ON HAND	SOLD		ON HAND	SOLD		ON HAND	SOLD		ON HAND	SOLD		ON HAND	SOLD		ON HAND	SOLD	
SILKS	851 Navy																		
	852																		
	853 Black																		
	854 Brown																		
	855 Blue																		
	856 Green																		
	857 Red-Rose																		
	858 Natural																		
	859 White																		
	861 Gold																		
	863 Grey																		
	864 Purple																		
	866 Aqua																		
	868 Pink																		
	869																		
TOTAL SILKS LINES 851 to 869																			
PTS	951 Light Prints																		
	961 Dark Prints																		
TOTAL PRINTS LINES 951 & 961																			
	801 Navy																		
	802 Beige & Natura																		

Women

FIGURE 51. Weekly Inventory and Sales Report.

Store managers also submit weekly letters emphasizing special needs and explaining local conditions that have had their influence on the sales, merchandise receipt, and inventory figures.

The central office commonly enters the information about sales and merchandise receipts on to style control cards. These are similar to those used in the store but are generally larger in order to show the sales, receipts, and stock in each store in the group, as well as the total for the style. See Figure 38 on page 412.

The sales information is also entered on weekly analysis sheets, similar to Figure 40, page 415, on which appears the inventory information reported weekly from stores. Sometimes an entire sheet is devoted to one price line with types, colors, or sizes entered vertically on the page.

Even though many other analyses may be made, the above two are the essential ones. The style control card indicates (1) to the buyer what style and how many of a style to reorder for the group as a whole and (2) to the distributors[2] how many of the style to ship to each store when it is ready for delivery. It also reveals when to transfer a style from one store to another and when to mark it down. By analyzing styles by type, the cards reveal the most popular types in which new styles may safely be purchased.

The weekly analyses of sales and inventory are commonly made by classification, price line, color, material, and sometimes size. They indicate unbalanced conditions in each store's stock so that the distributor can ship styles in the classifications, price, lines and colors that need more stock to satisfy demand. The box on page 436 gives the records required in one ready-to-wear chain. While this chain allows store managers to "reorder," the final decision as to what to ship is made centrally.

Physical inventory controls. The sales and stock records of staple merchandise are generally kept in each store, even in the case of a chain, and each manager decides when and how many to order. But central buying offices commonly do maintain purchase inventory controls over the goods in their warehouses or depots. These are operated on the reserve requisition principle—goods ordered by the stores are regarded as sold. This is a particularly common plan for groceries and drugs.

There are some cases of operations where stores submit periodic inventory counts to the central office with the latter as-

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[2] The persons in a central buying office who are charged with the responsibility of deciding how many of each style received by the central office should be sent to each store.

Records for Central Merchandising of Ready-to-Wear

(As Used in One Apparel Chain.)
Control by Style

AT STORE

1. *Stub*—part of price ticket.
2. *Style Sold Report* on which store lists styles sold daily from stubs or by means of mechanical tabulation.
3. *Reorder Form* on which store requests additional supply of a particular style.

AT HOME OFFICE

1. *Style Control Card* on which Home Office records history of a particular style. Used for reordering, transferring and markdowns.
2. *Master Sheet* on which Home Office records sales experience of potential reorder styles.
3. *Vendors' Performance Record* on which all styles are arranged by resource and rated.

Control by Types and Line Numbers

AT STORE

1. *Tabulation Card*—a running record of stores' *line number* performance. A line number represents a color, fabric and price line combination. It includes a group of styles.
2. *Order Sheet*—stores' sales and inventory record by line number submitted to Home Office weekly.
3. *Analysis Sheet*—summary of order sheet submitted along with order sheet.
4. *Increase-Decrease Form*—on which store informs Home Office of activity between orders.

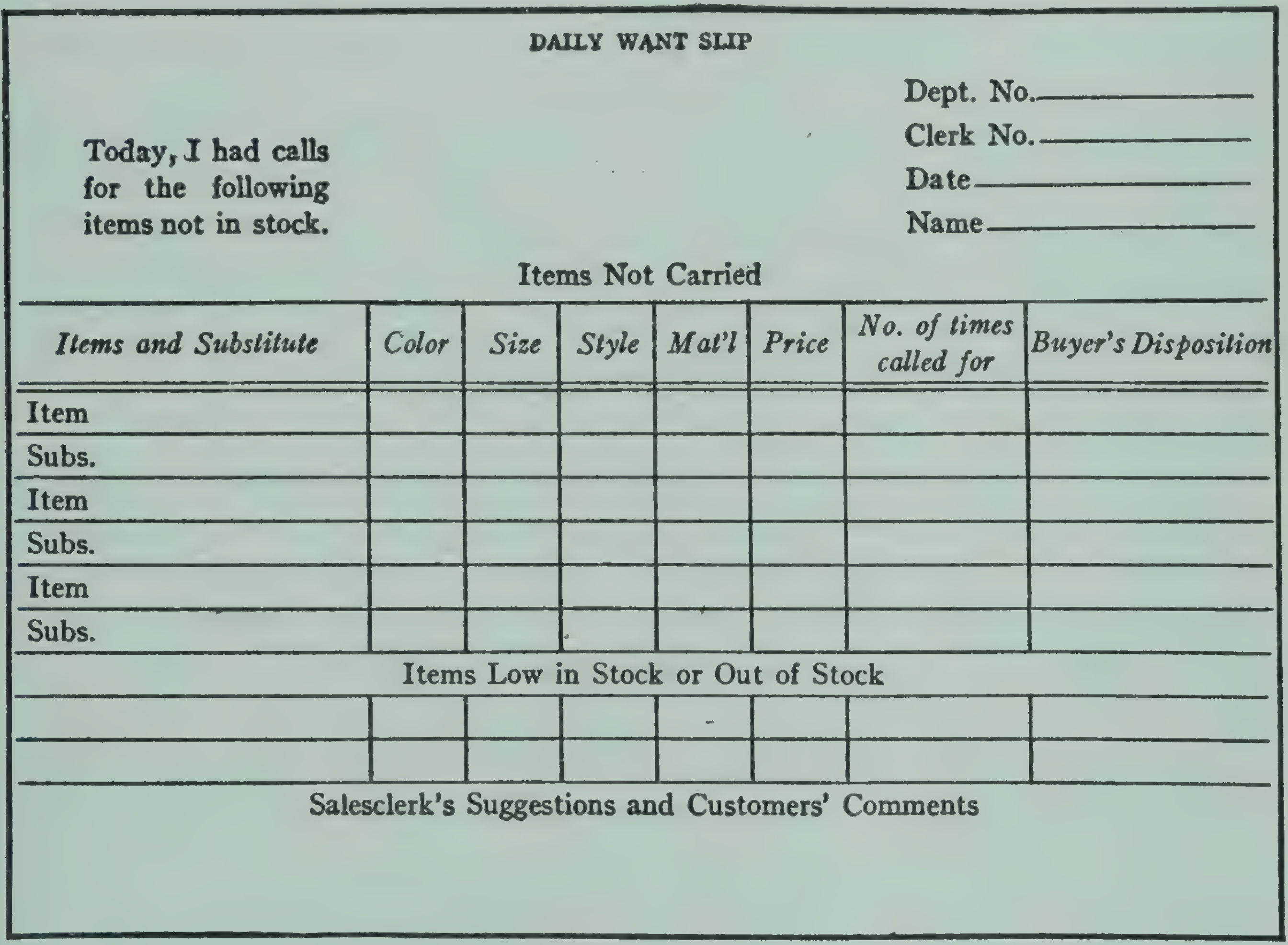
AT HOME OFFICE

1. *Distributors' Book* (weekly analysis) in which Home Office records information that has been submitted on stores' order sheets.
2. *Rush List*—on which "analysis sheet" information is recorded by store, by type. Stores' priority rating and subsequent daily shipments also recorded here.
3. *Charge Sheet*—on which merchandise is charged to store by line number. Provides invoice cutoff information.

suming responsibility for the store stock. For example, the hardware departments in a number of independent department stores have an arrangement with a hardware wholesaler: Every week they submit to him an inventory of their stock. He calculates the rate of sale of each item and makes the necessary replenishment. He adds new items at his own discretion (within certain dollar limits set) and discontinues other items of stock that do not warrant continuance.

Want-Slip System [3]

A system of unit control does not give complete information in regard to customer demand. While sales records reveal what has sold, they do not reveal what might have sold had it been in stock. Even in small stores, there is real need for a want-slip system to supplement sales and stock records. This is simply the organized recording by salespeople of goods asked for by customers but not in stock. Figure 52 is an example.



DAILY WANT SLIP

Today, I had calls for the following items not in stock.

Dept. No.__________
Clerk No.__________
Date__________
Name__________

Items Not Carried

Items and Substitute	*Color*	*Size*	*Style*	*Mat'l*	*Price*	*No. of times called for*	*Buyer's Disposition*
Item							
Subs.							
Item							
Subs.							
Item							
Subs.							

Items Low in Stock or Out of Stock

Salesclerk's Suggestions and Customers' Comments

FIGURE 52. Want-Slip Form.

It contains space for three types of information: (1) items that the store or department does not carry in stock, together with items the salesperson may have succeeded in selling instead, (2) items that the store intends to carry but that are sold out or very low in quantity, and (3) comments in regard to merchandise or service that may be of interest to the management.

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[3] See J. W. Wingate and N. A. Brisco, *Buying for Retail Stores.* New York: Prentice-Hall, Inc., 1946, for a more complete treatment of the subject.

As indicated in the figure, it is desirable to have room on the form for a notation by the buyer as to each want. If the want slips so marked are returned to salespeople, they will realize that the buyer is interested in their reports and co-operate more fully. However, few stores actually return the want slips; many depend for regularity in reporting upon an analysis of the number of wants reported each month by each salesclerk. Salespeople reporting few wants are followed up. The following quotation from one store's instructions to salespeople is of interest in this regard:

> It is important to your buyer to know what items customers ask for that we do not carry in stock. If the demand for certain items is sufficiently great, he may consider it advisable to stock them. The frequency with which such items are specially ordered or substitutes sold are other factors which influence the decision and about which he needs information. If sales are being lost because we do not carry certain merchandise, your buyer should know it at once.
>
> Also, your buyer is interested in calls for merchandise which we regularly carry but may not have available at the time called for; or which may be available in too small a quantity to meet the customer's demand. If such calls are frequent for certain items, it may be advisable to increase the quantity regularly carried on the floor.
>
> Your ideas and suggestions are likewise valuable to your buyer. Your constant contact with the customers who use our merchandise gives you a picture of what our customers want. If you have any ideas about items we might profitably carry, or changes we might make in items now carried—or any suggestions concerning any phase of the merchandising job—jot them down for your buyer's consideration.
>
> If this information is recorded faithfully by each salesperson it is a definite assistance not only to your buyer but to you as well.
>
> It means that we are more likely to have exactly what customers want, and that you will lose fewer sales and be able to satisfy customers more quickly and easily. These factors should mean larger sales and commissions for you.

Want slips are frequently recorded on analysis sheets (see Figure 53) so that the frequency with which an article is requested by customers may be determined. When the buyer feels that there is enough customer interest to warrant carrying the goods, he will place an initial order.

CALL SLIP SUMMARY

Dept. No.__________ Date__________

ITEMS CALLED FOR	WANTED				WHAT WAS SUBSTITUTED	BUYER'S DISPOSITION
	Style	Color	Size	Price		

FIGURE 53. Want-Slip Summary.

REVIEW QUESTIONS

1. What is meant by visual control?
2. What is meant by a rotated inventory control?
3. What instructions should be given salespeople in connection with periodic inventory control?
4. How may sales be derived from the counts?
5. What is meant by a minimum control system?
6. How may the rate of sale be determined from the control tickets used in connection with a minimum control system?
7. What types of merchandise have to be controlled on a seasonal basis rather than on a frequent reorder basis?
8. Where unit control is maintained centrally for a group of stores, what information must the store managers provide the central office?

9. What are the two basic records that must be kept in the central office?
10. Are most central controls of the sales analysis or of the periodic inventory types? Why?
11. Why is a want-slip system an important adjunct to unit control?
12. What three types of information should be recorded on want slips?
13. Why are want-slip summaries desirable?
14. Discuss possible ways to prevent duplicate want slips from being turned in for merchandise on order but temporarily out of stock.

GANDHI PEACE FOUNDATION
BANGALORE CENTRE,
GANDHI BHAVAN
Kumara Park BANGALORE-1

24

How to Plan Model Stocks and Unit Reorder Quantities

Once unit sales and stock information has been obtained by either the sales analysis or the physical inventory method, it must be used as a guide to buying and selling. Often no formal plans are made; the buyer simply studies sales to date and present stocks and decides almost intuitively how many more to buy or where to exert promotional emphasis. But an increasing number of buyers are finding it desirable to work out unit model stock and purchase plans, similar to dollar purchase plans described in Chapter 21.

Model Stocks

A model stock is a stock of merchandise assorted by such factors as price, size, color, and type in proportion to customer demand. In planning a model stock, the attempt is to achieve maximum sales from the merchandise investment. Sales and stock information obtained through a unit control system is necessary if a model stock is to be planned intelligently, but care must be taken not to be guided too much by past sales if current trends indicate that changes are taking place. Also, the planner should avoid the mistake of trying to keep stock in exact proportion to sales. For example, a store may have three classifications, all three of which require the same number of price lines, and sizes. Sixty per cent of the sales may be in class A, 30 per cent in class B, and 10 per cent in class C. If the total stock is distributed in these proportions, the assortment in class C will be very small and probably inadequate to achieve even the 10 per cent sales expectancy. Conversely, in class A, the assortment may be larger than necessary to satisfy virtually all customers. Normally, the turnover in the large classifications should be higher than the turnover in the small classifications, *provided* the assortment needs in both are similar. The following might be a good distribution:

Class	*Planned Unit Sales*	*Planned Unit Stock*	*Turnover*
A	600	250	2.4
B	300	160	1.9
C	100	90	1.1
	1,000	500	2.0

An example. A skeleton model stock plan may be illustrated from the lamp department.[1] Sales for the fall season may be estimated at $28,000 and stock-turn at 2 for the season (not the year). This means that the stock should average $14,000. What proportion of this stock should be invested in promotional as distinct from regular stock depends upon the policy of the store. But if the model stock is being planned for early in the fall season, about 70 per cent may be regular stock or $10,000.

There are four major classifications in the lamp department: floor lamps, living room lamps, boudoir lamps, and lamp shades, and experience indicates the following distribution of stock is desirable:

Classification	*Per Cent of Regular Dollar Stock*	*Stock in Dollars*
Floor Lamps	25%	$ 2,500
Living Room Lamps	45	4,500
Boudoir Lamps	20	2,000
Lamp Shades	10	1,000
	100%	$10,000

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[1] Courtesy: Kirby, Block & Co.

Each classification must now be broken down into price lines and materials as in Figure 54.

MODEL STOCK PLAN FOR LAMPS

Floor Lamps

Price Line	*Per Cent by Price*	*Per Cent by Material*	*Dollars*	*Units*
Total	100	...	2,500	130
14.95	25	100	625	42
Bronze-plated		70		30
Colonial brass		20		8
Modern		10		4
19.95	50	100	1,250	63
Bronze-plated		70		44
Colonial brass		20		13
Modern		10		6
24.75	25	100	625	25
Bronze-plated		70		17
Colonial brass		20		5
Modern		10		3

Living Room Lamps

Price Line	*Per Cent by Price*	*Per Cent by Material*	*Dollars*	*Units*
Total	100	...	4,500	245
14.95	35	100	1,575	104
China		50		52
Metal		25		26
Wood		15		16
Novelties		10		10
19.95	50	100	2,250	114
China		50		57
Metal		25		29
Wood		15		17
Novelties		10		11
25.00	15	100	675	27
China		50		13
Metal		25		7
Wood		15		4
Novelties		10		3

Boudoir Lamps

Price Line	*Per Cent by Sub-class*	*Per Cent by Price*	*Dollars*	*Units*
Total	100	...	2,000	688
Bases	50	100	1,000	300
1.95		15	150	76

FIGURE 54.

Price Line	*Per Cent by Sub-class*	*Per Cent by Price*	*Dollars*	*Units*
2.95		20	200	67
3.95		35	350	88
4.95		15	150	50
7.95		10	100	13
9.95		5	50	5
Shades	50	100	1,000	388
1.95		35	350	180
2.95		50	500	170
3.95		15	150	38

All shades in both night-table and twin-light sizes.
Colors: Rose, Egg shell, maize, blue.

Lamp Shades

Price Line	*Per Cent by Price*	*Per Cent by Material*	*Dollars*	*Units*
Total	100	...	1,000	200
3.95	50	100	500	127
Fabric		70		89
Parchment		30		38
5.95	35	100	350	59
Fabric		70		41
Parchment		30		18
6.95	10	100	100	15
Fabric		70		10
Parchment		30		5
Higher	5		50	5
Fabric		70		3
Parchment		30		2

A complete model stock would also indicate the particular styles that would be carried in each price line and material.

FIGURE 54 (*Cont.*).

Controlling Fashion Stocks—Closing Stock Method

Guided by such a model stock plan, it is not difficult for the buyer so to place his orders as to keep his stock in the balance planned. The goal, however, is not to follow the model stock plan rigidly, but only as a guide. As the season progresses, stock at some points must be increased and at others decreased. A good plan to use for fashion stocks is to plan a stock in each price line in each classification for the end of the month for which buying is now to be done and to calculate an open-to-buy for that price line. For example, in the $5 price line for open-crown hats, 36 may be on hand on June 1 and 25 may have sold in May. From past experience, the buyer may know that June sales in this classification exceed May sales by 20 per cent and he may estimate 30 sales for June. Guided by his model stock plan, he may set an assortment of only 24 of these hats on July 1. His planned purchases for June delivery, then, may be calculated from the usual purchase formula:

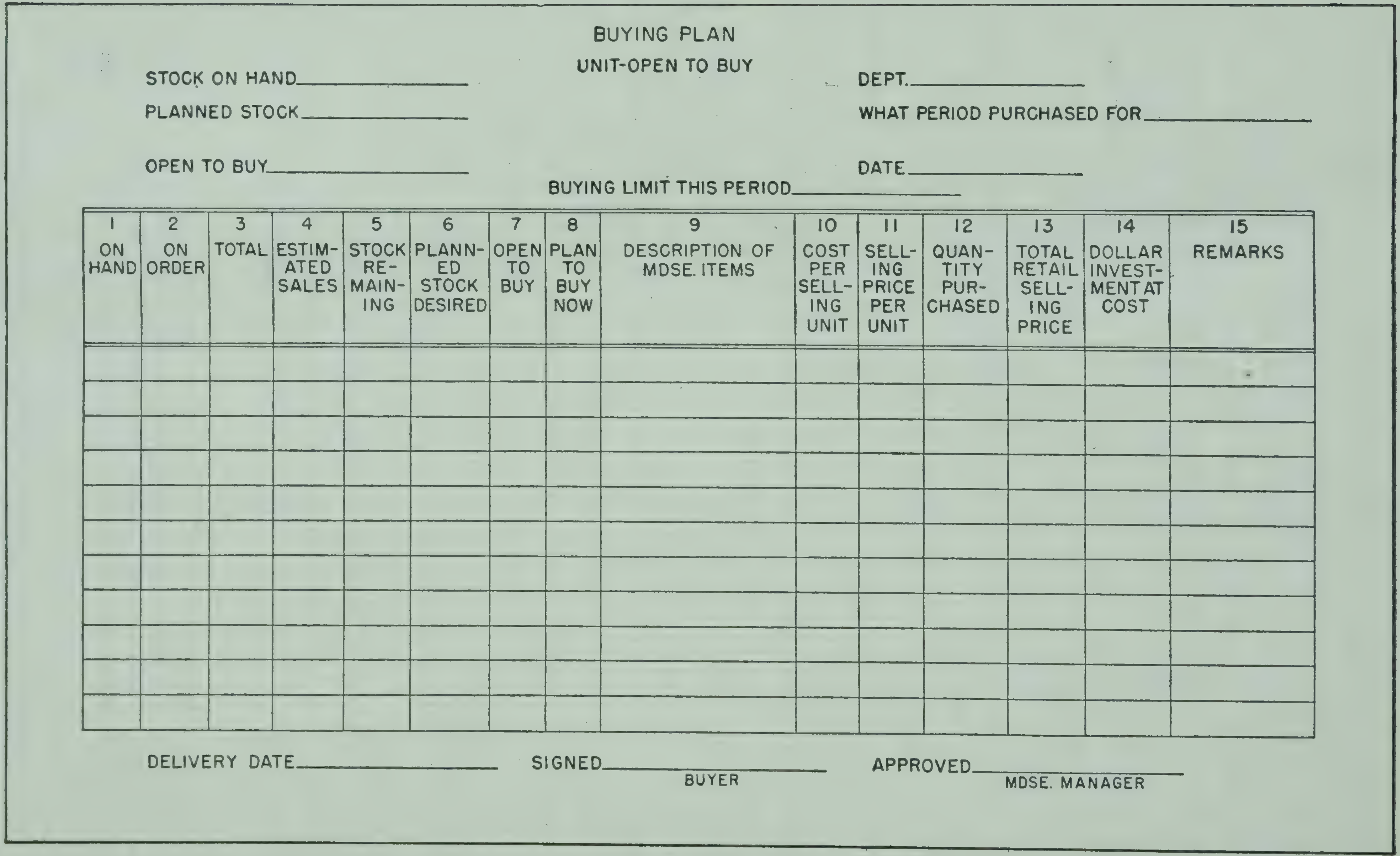
Stock at the end + Sales — Stock at the beginning: 24 (July 1st stock) + 30 (June sales estimate) — 36 (June 1st stock) = 18. If 6 of these hats are already on order for June delivery, the open-to-by is 12. It should be observed that early in June it may be necessary to plan purchases for July also, since delivery may require a number of weeks. For July planning, the stock on the first of July may be estimated.

Figure 55 is suitable for the purpose of planning closing stocks and deriving unit open-to-buy. It is sufficiently flexible to be used for different types, different price lines, different style numbers in a price line, different materials, or different colors.[2] Columns 1, 2 and 3 are self-explanatory. Column 4 is the planned sales for a period, such as a month; column 5 is the difference between columns 3 and 4 and indicates what would be on hand at the end of the period if no more were ordered. Column 6 is the stock planned for the end of the period; and column 7 (column 6 minus column 5) indicates how many more should be ordered to achieve the planned stock. This is the open-to-buy. Column 8 represents the portion of the open-to-

---

[2] Most stores do not sell enough of an individual style number of a fashion item to be able to plan a specific quantity to carry at a given date in the future or to forecast the sales accurately. Accordingly, better results are usually attained by planning for a price line or other composite unit that includes a number of styles. The sales of the composite unit can be forecast fairly accurately and a planned closing stock intelligently planned without attempting to budget the sales and stocks for each of the style numbers involved.

When a style number has become a "runner" however, and is subject to frequent reorder, it may be controlled as in the example given in connection with Figure 55.



BUYING PLAN

UNIT-OPEN TO BUY

STOCK ON HAND________ DEPT.________

PLANNED STOCK________ WHAT PERIOD PURCHASED FOR________

OPEN TO BUY________ DATE________

BUYING LIMIT THIS PERIOD________

1 ON HAND	2 ON ORDER	3 TOTAL	4 ESTIMATED SALES	5 STOCK REMAINING	6 PLANNED STOCK DESIRED	7 OPEN TO BUY	8 PLAN TO BUY NOW	9 DESCRIPTION OF MDSE. ITEMS	10 COST PER SELLING UNIT	11 SELLING PRICE PER UNIT	12 QUANTITY PURCHASED	13 TOTAL RETAIL SELLING PRICE	14 DOLLAR INVESTMENT AT COST	15 REMARKS

DELIVERY DATE________ SIGNED________ BUYER APPROVED________ MDSE. MANAGER

FIGURE 55.

buy the buyer plans to order at once and column 12 the amount he actually does order.

For example, the buyer may, on September 15, have on hand 40 and on order 24 of a popular style that has already been reordered and seems destined to continue popular through the entire fall and winter season. He may estimate that he will sell 25 of this item during the last half of the month—to October 1—and that he should have 48 on hand at that time to provide a good assortment of sizes and colors for the active fall season. Delivery may take nearly two weeks. If he were to order no more at this time, he would have 39 remaining on October 1 (40 on hand + 24 now on order − 25 sales = 39). Since he wants 48 on hand, he should order 9 more; this is the open-to-buy for the balance of September.

Normally, this should be ordered at once to insure that the goods will be in stock by October 1. If delivery could be obtained in less than a week, only 4 or 5 might be ordered now in the most needed sizes and colors with another order for the balance placed next week.

On October 1, a similar calculation would be made with a stock for October 15 as the goal.

Maximum method for fashion goods. A second way to control fashion stocks is to build up to a predetermined number of weeks' supply as explained in Chapter 20 in conection with the planning of dollar stocks. For example, if a stockturn of 6½ times is desired in a certain price line or classification, the stock carried should average 8 weeks' supply (52/6.5). If it takes two weeks for delivery, when 8 weeks' supply are on hand, 2 weeks' supply should be on order and some of these orders may be coming in every day to replace sales. If orders are to be planned at weekly intervals, when 8 weeks' supply are on hand and 2 weeks' supply on order, an additional week's supply must be budgeted to come in during the third week ahead. Thus, the *maximum* in the example is 11 weeks' supply. At a generalization,

Maximum = Average stock in terms of weeks' supply
+ Delivery period + Reorder period.

This formula is virtually the same as that on page 449 for staples, except that in the case of fashion goods the average stock, which replaces the reserve, is obtained from a predetermined stock-turn. This average stock figure has to be large enough not only to allow for contingencies but also to provide an assortment of styles, colors, and sizes.

For example, on October 1, sales for the coming 11-week period may be estimated at 220 and the stock on hand on October 1 may be 150 and the stock on order 40. The buyer has provided for 190 of the 220 maximum needed during the next 3 weeks, and the open-to-buy is 30.

During the next week, the following transactions may take place and the new plans indicated made:

	Number
On hand October 1	150
Received—October 1–8	25
	175
Sold	18
On hand October 8	157
On order—old 15	
new 30	45
Total provision	202
Estimated sales for coming 11 weeks (October 8 to December 31)	212
O.T.B.	10

In essence, what this plan does is to allow the ordering this week of the quantity to be sold in the eleventh week ahead. There are two objections to this method. First, there is often insufficient information upon which to set a sound stock-turn goal for a narrow classification of goods. Second, as explained in Chapter 20 on page 386: it is not desirable always to carry the same number of weeks' supply on hand because this means that the same turnover is achieved in both peak and slack seasons. If 6½ stock-turns are desired, the number of weeks' supply in peak seasons should be less than 8 weeks' supply and in slack seasons should be more than 8 weeks' supply. If a season stock-turn for the unit is planned and if the adjustments indicated are intelligently made, this method should give good results. It has the advantage over the plan of setting a closing stock in that it is more flexible. There is virtually every week additional open-to-buy, since the maximum stock is continually being extended farther into the future as time passes.

Controlling Staple Stocks

Staple stocks may also be controlled by planning closing stocks or by planning maximum stocks. Since it is easier to forecast the rate of sale of staples, each staple article may be controlled independently rather than by collectively controlling a group of articles that comprise a price line on a classification.

Maximum plan. Since many staples are reordered at regular and frequent intervals, it is generally easier to use the maximum plan than to plan a specific closing stock for each item. The standard formula used for this purpose is:

$$\text{Maximum (in weeks' supply)} = \text{reserve (in weeks)} + \text{delivery period} + \text{reorder period.}$$

This is essentially the same formula used on page 448 for fashion goods, except that the *reserve* replaces the *average stock.* Since we are here dealing with one specific item, it is not necessary to provide an average stock large enough to assure a variety of styles, colors, and sizes, nor is it feasible to plan a turnover goal for the individual article. The reserve supply is set large enough for delays in delivery and for variations in sales from plan that cannot be forecast, to the end that sales will not be lost by the entire depletion of the stock. For example, an article may be selling at an average rate of 12 a week and delivery may take one week. It would be foolhardy to wait until the stock gets down to 12 before a reorder is placed—sales demands during the coming week might exceed 12 and delivery might be delayed. Accordingly, an additional week's supply might be set as a reserve or safety factor to cover these contingencies.[3] Thus, the proper time to reorder the item is when the stock drops to two weeks' supply or 24. This is known as the *reorder point* or the *minimum.* At this point, the amount to reorder depends upon the frequency with which reorders for this item are to be placed. If it is a very fast seller, the buyer may place the item on a weekly reorder schedule; if it is a fair seller on a biweekly schedule and if a moderate seller on a monthly (4-week) schedule; slow-selling items necessary to the assortment may be reordered even less frequently as the need arises and a few fast moving perishables may be reordered every day or two.

In the example, it will be assumed that the weekly rate of sale of 12 justifies reorders every two weeks. Thus, when the stock sells down to the reorder point of 24, two weeks' additional supply, or 24 more, should be ordered. Thus, the maximum is 48:

Maximum (in weeks' supply) = 1 week's supply (reserve) + 1 week's supply (delivery) + 2 weeks' supply (reorder period) = 4 weeks' supply.

Maximum in units = Maximum in weeks' supply × rate of sale = 4 × 12 = 48.

If a biweekly count reveals 24 actually on hand, 24 more will be ordered. If the count reveals only 20 on hand, 28 will be ordered. If it reveals 30 on hand, only 18 will be ordered.

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[3] How large the *reserve* should be depends basically upon the degree of sales fluctuation from normal expectancy and upon the degree of variation in the delivery period. If sales can be forecast with a high degree of accuracy and if delivery time is nearly constant, the reserve may be very small—perhaps a few days' supply. If sales fluctuate widely or if delivery time is irregular, the reserve may have to be a number of weeks' supply. A satisfactory rule of thumb is to set the reserve at one week's supply if delivery takes one week, at 1½ weeks' supply if delivery takes 2 weeks, and at 2 weeks' supply if delivery takes 3 weeks. The reserve does not have to double if delivery takes twice as long, since sales and delivery expectancies over a 2-week period are likely to be more accurate than over one week. Thus, with sales of 12 a week expected, 24 might once in ten times materialize in a week, but the chances of sales being 24 in two successive weeks is much less likely.

If any items from the last order have not yet arrived, they must be added to the stock on hand in figuring the reorder quantity. Thus, if a count shows 20 on hand but 18 more on order, only 10 more will be ordered:

O.T.B. = Maximum in Units — (On Hand + On order).

One control system for staples sets the maximum as *twice* the reorder point. Thus, if delivery takes 1 week, a reserve of 1 week is planned, yielding a reorder point (minimum) of 2 weeks' supply. The maximum, then, is 4 weeks' supply and results in reorders normally every 2 weeks. For various delivery periods, the relationships in the box below are satisfactory.

MINIMUM AND MAXIMUM RELATIONSHIPS IN TERMS OF NUMBER OF WEEKS' SUPPLY

Delivery Period	*Reserve*	*Reorder Point*	*Maximum*
½	¾	1¼	2½
1	1	2	4
2	1½	3½	7
3	2	5	10
4	2½	6½	13

The advantage of this plan is that whenever the stock is checked, the sales since the last order can be determined by doubling the minimum and subtracting the actual amount on hand (and on order if any). But there is no particular logic in tying up the normal rate of reorder with the length of delivery. It is conceivable that slowly moving items on which prompt delivery can be obtained would not be ordered more than once in 6 weeks and that fast moving items with long delivery periods might be reordered weekly with more than one order outstanding at a time.

Controlling seasonal staples. For staples that sell with considerable regularity all the year round, it is customary to set a fixed maximum in units (equal to the sum of the reserve, delivery period quantity, and reorder period quantity) and to order periodically the difference between this maximum and the amount on hand and on order.

But for staples that are seasonal, it is important to adjust the unit maximum at each reorder interval by adjusting the weekly rate of sale. There are two ways to do this. One is to set a single rate of sale for the weeks ahead and the other is to plan sales by weeks for the period included in the maximum. An example of the first is as follows: if the rate of sale for the item cited on page 450 increases from 12 to 18 a week, the maximum of 4 weeks' supply will become 72 rather than 48 and reorders increased accordingly. As already indicated, the number of weeks' supply in the maximum can be reduced somewhat in peak period. If reduced from 4 to 3½ weeks' supply, the unit maximum for this season would be 3½ × 18 or 63, rather than 72. Thus, with sales increasing 50 per cent (from 12 a week to 18 a week), the maximum would be increased from 48 to 63, an increase of about 31 per cent. As stated earlier, the problem is one of judging how much adjustment to make in the number of weeks' supply in the maximum.

One millinery chain defends the practice of keeping the maximum fixed, in terms of weeks' supply, on the grounds that delivery is usually delayed in busy periods. Thus, the normal maximum may be 4 weeks' supply—one week's reserve, one week's delivery, and two weeks' reorder—the rate of sale may be 12, and the maximum 48. In rush seasons, the rate of weekly sale may be 24 and the maximum 24 × 4 or 96. But at this time delivery is likely to take actually a week and a half, not one week. Of the 4-week maximum, then, 1½ weeks' supply is in process of delivery, 2 weeks' supply represents the reorder period, leaving only ½ week's supply as the reserve. With sales of 24 a week, the reserve is 12, just what it was when the sales were 12 a week. Thus reserve stocks are not increased as sales increase.

The second way to adjust for seasonal sales changes is to forecast varying weekly rates of sales for each item rather than a single rate. For example, if the maximum is to be 4 weeks' supply, the sales may be planned as follows:

First	week	ahead	30
Second	"	"	35
Third	"	"	40
Fourth	"	"	45
Maximum			150

This will prove more satisfactory than taking the current rate of sale, which may be 30, and multiplying by 4, since it will better provide for the sales expectations ahead.

As explained on page 364 in Chapter 19, mail-order houses calculate the cumulative percentage of every item in the previous catalog for a six months' season, and apply these percentages to actual sales to forecast coming sales. The period for which sales are planned is set equal to the desired maximum. For example, for an article of clothing, the buyer may plan to carry a reserve of 2 weeks' supply in the warehouse. Delivery may take 2 weeks, and reorders with the manufacturer may be placed every 2 weeks. The maximum, then, is 6 weeks' supply. At the end of the sixth week, since the catalog has been issued, the following data may be available:

Cumulative per cent of season's sales in first 6 weeks (based on last year)	20%
Cumulative per cent of season's sales in first 12 weeks (based on last year)	50%
Actual sales first 6 weeks	100
On hand	42
On order	48

Since 100 units is probably 20 per cent of the season's sales, the latter figure is estimated at 500. Of this amount, 30 per cent should be sold in the coming 6 weeks This is 150 and is also the maximum that should be on hand and on order. Since 42 are on hand and 48 are on order, the buyer has provided for 90 of the 150 needed. Accordingly, 60 more should now be ordered.

The number of weeks' supply in the maximum may vary from time to time depending upon changes in time of delivery;

changes in frequency of order, and changes in the size of reserve deemed necessary.

Computing the Reorder Quantity

A buyer wanted to have on hand and on order, at all times, 7 weeks' supply of hosiery, Style 75. Estimating his sales at 6 pair a week, he set the *maximum* at 42 and ordered enough to bring his commitments up to this figure. He set one-half the maximum as a minimum (21), which represented the point at which he wished to reorder. A control ticket was attached to the supply of the style giving the maximum, the date of the order and the *minimum*.

On May 14, the stock boy turned in the Style 75 ticket to the buyer, stamped with the date April 15, and indicating that the minimum of 21 had been reached.

The buyer computed the sales and the reorder quantity as follows:

April 15 to May 14 = approximately 4 weeks.
42 maximum — 21 minimum = 21, the sales for 4 weeks.
21 ÷ 4 = 5 approximately, the weekly rate of sale.
5 × 7 = 35, the new maximum, to replace the old one of 42.
35 — 21 = 14, the proper reorder quantity.

Technical Appendix—Optimum Reorder Quantities

When it is possible to determine (1) the expense of placing an individual order and (2) the percentage cost of carrying an inventory, there is a formula available to determine the ideal size and frequency of a reorder for a staple item. For example, (1) to place 100 additional orders may increase ordering and handling expenses $25 or 25 cents per additional order placed, and (2) to carry in stock $100 worth of merchandise at cost may cost about 9 per cent: 4 per cent for interest, 2 per cent for insurance, and 3 per cent for depreciation.[4]

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[4] The depreciation at cost may be assumed to be in the same proportion as the markdowns to the sales.

The estimated yearly requirements of an item in a department with the above order and inventory expense may be \$1,000 worth at cost. Now, by trial and error it would be possible to determine the most economical ordering cost. For example, if one order were placed a year for \$1,000 worth (at cost), the order cost for the year would be only 25 cents; but the inventory or carrying cost would be 9 per cent of the average inventory, which is approximately one-half the amount of the order, or \$500.[5] This is \$45. Thus, the total expense of annual replacement is \$45.25. Were the item to be reordered every week, the ordering expense would be 25 cents times 52, or \$13 and the inventory expense would be 9 per cent of one-half the average reorder of \$19.23 $\left(\frac{\$1,000}{52}\right)$, or \$.86. Thus, the total cost of weekly replacement is \$13.00 + \$.86, or \$13.86 for a year. This is obviously more economical than ordering once a year but many other frequencies might have to be tried to determine the one that yields the lowest total expense—that, is the point when the reorder expense just equals the inventory expense.

The formula to determine this point without such trial and error is as follows:

$$\text{Order quantity} = \sqrt{\frac{2 \times \text{annual requirements at cost} \times \text{Unit reorder cost}}{\text{Inventory carrying rate.}}}$$

Substituting the data in the problem given:

$$\text{Order quantity} = \sqrt{\frac{2 \times \$1,000 \times .25}{.09}} = \sqrt{\frac{\$500}{.09}} = \sqrt{\$5,556} = \$74.53$$

Thus, the "ideal" reorder quantity is found to be \$74.53 worth at cost. Dividing this into \$1,000 gives 13.4 reorders or about once every 4 weeks. The expense at this point, (which is the lowest expense) may be determined as follows:

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[5] If \$1,000 is bought at the first of the year and is gradually sold out to the end of the year, the average merchandise investment will be only \$500. A reserve supply may also be carried but this would be necessary regardless of the frequency of reorder and need not enter into the calculation.

25¢ × 13.4 orders	$3.35
$9\% \times \frac{\$74.53}{2}$ order quantity	$3.35
Total	$6.70

While the above reasoning and the formula growing out of it are significant, it is not generally possible in practice to calculate reorder quantities with such precision. It is not easy to determine the marginal cost of placing additional orders or of eliminating present orders; it is not practicable to estimate depreciation on individual items; and it is particularly difficult to determine annual requirements—it is often impossible to estimate closely more than a few weeks ahead. Again, changes in reorder quantities and frequencies may change transportation costs and even purchase discounts available. While the formula can be revised to allow for some of these factors, it then becomes too complicated for general store use.

Nevertheless, it would seem desirable to check present frequencies in the reordering of staples with the mathematical frequencies determined by the formula. When major differences are found, it should not be difficult to decide whether the item is being reordered too frequently or too infrequently. One study made along this line indicated that staples in a drug department were being ordered too frequently—the ordering expenses more than offset the low inventory expense.

REVIEW QUESTIONS

1. What is a model stock?
2. Should stocks in various breakdowns be kept in direct ratio to sales in these breakdowns? Why?
3. Instead of breaking down a stock first by classification, then by price line, and next by material, would it be desirable to break it down first by price line? First by material? Why?
4. If percentages used for distributing a stock to price lines are based on unit sales rather than on dollar sales, what difference would it make?

5. Explain how open-to-buy may be calculated for an item by the closing stock method. By the maximum stock method.
6. What are the advantages and disadvantages of the maximum stock method?
7. Are these methods applicable to individual styles of fashion goods?
8. In what respects does the maximum stock method for staples differ from the maximum stock method for fashion goods?
9. What is the relationship between the reserve and the minimum? Between the minimum and the maximum?
10. In what respects does the maximum stock method for seasonal staples differ from that for staples that have a fairly constant rate of sale?
11. How may cumulative percentages, based on previous experience, be used to set maximum stocks for seasonal staples?
12. What is meant by an optimum reorder quantity?
13. What expenses go up as stock-turn increases? What expenses and costs go down as stock-turn increases?
14. Why are costs and expenses at a minimum when reorder and inventory expenses are equal?
15. Give the formula for determining the ideal reorder quantity.
16. What are the practical limitations to the use of this formula?

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How to Analyze Expenses

Expense Classification

In order to analyze operating expenses for the purpose of controlling them, it is essential to classify them into as many small divisions as can be set up without undue cost. The large store can afford more classifications than a small one. In order that stores may compare their expenses effectively, it is essential that the classification system in all stores be the same. One store cannot compare its advertising expense with another, if the first includes only the cost of the newspaper space under this caption, while the latter includes the pay roll of the employees in the advertising department as well. Generally accepted standards of classification are necessary. To make it possible for the small store to be compared with the large store, the major breakdowns of expense in both should be the same, but the large store will establish more minute subdivisions. These can be readily totaled to put the expenses into form comparable with those in stores that do not subdivide so far.

Functional classification of expense. Operating expenses may be classified in one of two ways. The functional classification divides them according to the broad store functions to the performance of which they contribute. These divisions are roughly analogous to those appearing on a store organization chart. The five major functions set up by department stores for expense purposes are:

1. Administration.
2. Occupancy.
3. Publicity.
4. Buying.
5. Selling.

For example, executive salaries are classified under *administration,* rent and lighting expenses under *occupancy,* newspaper advertising under *publicity,* buyers' salaries under *buying,* and salespersons' salaries and delivery under *selling.* In large stores, the five divisions are further broken down into subfunctions and numbered as indicated in the following table.

TABLE VIII

FUNCTIONAL CLASSIFICATION OF EXPENSE[1]

Small Store (5 Divisions)	*Medium-Sized Store* (11 Divisions)	*Large Store* (18 Divisions)
20 Administrative	20 Administrative	21 Executive office 22 Accounting office 23 Accounts receivable and credit office 24 Superintendency 25 General store
30 Occupancy	31 Operating and housekeeping 32 Fixed plant and equipment costs 33 Light, heat, and power	31 Operating and housekeeping 32 Fixed plant and equipment costs 33 Light, heat, and power
40 Publicity	41 Advertising 45 Display	42 Sales promotion office 43 Newspaper and general advertising 44 Direct mail 45 Display
50 Buying	51 Merchandise management and buying, and outside buying offices 54 Receiving and marking	52 Merchandise management and buying 53 Domestic and foreign buying offices 54 Receiving and marking
60 Selling	61 Compensation of salespeople 62 General selling 63 Delivery	61 Compensation of salespeople 62 General selling 63 Delivery

[1] *Expense Manual,* Controllers' Congress, N.R.D.G.A.

Functional divisions in chain stores. In the case of chain stores, in the convenience goods class, a different functional grouping of expense is desirable, as follows:

1. Store expense.
2. Warehouse expense.
3. Transportation expense.
4. Buying and administrative expense.

Buying could be separated from administrative expense, but in many chain organizations these functions are closely related. Publicity is a minor expense in such chains as groceries; accordingly, the small amount of central advertising that is done may be included under buying and administrative expense.

Natural classifications of expense. The second method of classifying expenses is according to natural divisions. This is a classification according to types of service a store pays for, regardless of the store functions that may be furthered by means of this service. There are fourteen such divisions for dry goods and department stores, standardized by the National Retail Dry Goods Association:

1. Payroll.
2. Rentals.
3. Advertising.
4. Taxes.
5. Interest.[2]
6. Supplies.
7. Service purchased.[3]
8. Unclassified, including losses from bad debts.
9. Traveling.
10. Communication.
11. Repairs.
12. Insurance.
13. Depreciation.
14. Professional services.[4]

Expense classifications applicable to different-sized stores. A small dry goods store may keep simply fourteen expense accounts, one for each natural division, charging each item of expense to one of them. Medium-sized stores find it desirable to group their expenses under eleven subfunctional divisions and to set up under each subfunction as many natural divisions as are necessary (see Figure 56). For example, under the *receiving and marking* subfunction four natural divisions are necessary: pay roll, supplies, unclassified, and traveling. The other ten natural divisions do not apply to this function. Rent is excluded because no separate rent bill is paid for space occupied by these departments. The medium sized store, then, may keep four accounts for its receiving and marking expenses, or it may keep two or more accounts for some natural divisions under receiving and marking. For example, under the heading of supplies, one account may be kept for cost of price tickets and another for all other supplies used.

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[2] At 4 per cent on value of average merchandise investment and fixed assets.

[3] Heat, light, power, and cleaning and delivery services purchased from outside agencies.

[4] Legal and accounting services, fees of buying office, credit associations, advertising, fashion, and merchandising consultants.

Under the delivery subfunction, ten natural divisions are necessary, as follows: pay roll, rentals (of delivery, garage, and repair-shop space occupied *outside* the store building only), taxes, supplies, service purchased, unclassified, traveling, repairs, insurance, and depreciation. Under each natural division, one or more separate accounts may be set up. For example, four pay-roll accounts may be desirable, one for the salaries of the delivery superintendent and his assistants; one for the wages of deliverymen, their helpers, and foremen in charge; one for the wages of those in the "inside division" (sorters, route clerks, sheet writers, and so forth); and one for the wages of all garage and repair-shop employees.

In large stores, eighteen subfunctional divisions replace the eleven, and natural divisions appear under each of these.

Fixed and variable expenses. For analysis purposes, expenses may also be classified as fixed and variable. Fixed expenses are those that do not change in total dollar amount as sales volume varies, whereas variable expenses change with variations in sales. Both fixed and variable expenses may be found in each of the functional and each of the natural divisions of expense. But, in general, most occupancy and buying expenses are fixed and most selling expenses are variable. Administrative and publicity expenses are partly variable and partly fixed.

CHART OF
NATURAL DIVISIONS OF EXPENSE BY SUB-FUNCTIONS[a]
(For Stores of Medium Size)

	01 Payroll	02 Rentals	03 Advertising	04 Taxes	05 Interest	06 Supplies	07 Service Purchased	08 Unclassified	09 Traveling	10 Communication	11 Repairs	12 Insurance	13 Depreciation	14 Professional Services	15 Contra Credits
ADMINISTRATIVE FUNCTION															
20 - Administrative	01	x	x	04	05	06	x	08	09	10	x	12	x	14	x
OCCUPANCY FUNCTION															
31 - Operating and Housekeeping	01	x	x	x	x	06	07	08	09	x	11	x	x	x	x
32 - Fixed Plant and Equipment Costs	x	02	x	04	05	x	x	x	x	x	x	12	13	x	15
33 - Light, Heat and Power	01	x	x	x	x	06	07	08	x	x	x	x	x	x	15
PUBLICITY FUNCTION															
41 - Advertising	01	x	03	x	x	06	x	08	09	10	x	x	x	14	x
45 - Display	01	x	x	x	x	06	x	08	09	x	x	x	x	x	x
BUYING FUNCTION															
51 - Merchandise Management & Buying and Outside Buying Offices	01	02	x	04	x	06	x	08	09	10	x	12	13	14	x
54 - Receiving and Marking	01	x	x	x	x	06	-x	08	09	x	x	x	x	x	x
SELLING FUNCTION															
61 - Compensation of Salespersons	01	x	x	x	x	x	x	x	x	x	x	x	x	x	x
62 - General Selling	01	x	x	x	x	06	x	08	09	x	x	x	x	x	x
63 - Delivery	01	x	x	04	05	06	07	08	09	x	11	12	13	x	15

[a] *Expense Manual*, Controllers' Congress.

FIGURE 56. Natural Divisions of Expense by Sub-Functions.

Tables IX and X indicate estimates made by one store as to its relative amount of fixed and variable expenses. Only 41 per cent of the dollar expenses and 39 per cent of the various expense items were found to be influenced by changes in the volume of business done. Of course, no expenses are permanently fixed, even though they bear no immediate relationship to sales. For example, if the increased sales lead to a greater value for the store location, rents may be increased. Also, the increased volume may ultimately require more space. Again, all fixed expenses are influenced by outside forces that affect prices even though they do not vary because of sales changes.

A knowledge of the relative amount of fixed and variable expenses in any store or department is of great aid in planning expenses ahead. For example, sales last year may have been $80,000 and expenses 28 per cent. This year sales may be planned at $72,000; thus, volume will be down 10 per cent. The probable expenses this year, then, may be estimated as in the box on page 465.

TABLE IX[a]

ESTIMATE OF PROPORTION OF EXPENSES AFFECTED BY VARIATION IN THE NUMBER OF TRANSACTIONS

	By Dollars			*By Count of Expense Headings*		
	Total Expense	*Accounts Affected*	*Per Cent*	*Total Number of Accounts*	*Number of Accounts Affected*	*Per Cent*
1. Administrative .	$1,440,936.	$ 641,183.	44.4	78	30	38.4
2. Occupancy	1,984,096.	145,567.	7.3	59	8	13.5
3. Publicity	1,606,484.	....	...	36	...	...
4. Buying	1,295,120.	261,646.	20.2	22	12	54.5
5. Selling	2,225,097.	2,182,027.	98.0	38	32	84.2
6. Delivery	477,052.	455,751.	95.5	25	18	72.0
	$9,028,785.	$3,686,174.	40.9	258	100	38.7

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[a] *Proceedings,* 1932, Controllers' Congress.

TABLE X[a]

FIXED AND VARIABLE EXPENSES

A Few Important Expense Headings, Split into Two Groups Unaffected or Affected by Variation in Number of Transactions to Illustrate Method of Preparing Table VIII.

FIXED	VARIABLE
Administrative	
1. Executive Office	Audit Office
2. Purchase Office	Printed Forms
3. Statistical	A/C's Receivable Office
4. Credit Information	Credit Office
5. Donations & Memberships	Payroll, Service & Personnel
6. Insurance	Telephone
7. Professional Services	
Occupancy	
8. Elevators	Porters & Cleaners
9. Rentals	
10. Mortgage Interest	
11. Dep. on Fixtures	
12. Light, Heat & Power	
Publicity	
13. Pub.— News Space Copywriters & Artists Electrotypes	
Buying	
14. Mdse. Mgrs. Payroll	Unit Control
15. Buyers & Assts.	Receiving & Marking
16. Comparison Office	Price Tickets
17. Central Buying Office	
18. Foreign Offices	
Selling	
19.	Selling Salaries
20.	Floor Mgrs. & Assts.
21.	Stock & Clerical
22.	Cashiers
23.	Inspectors & Wrappers
24.	Wrapping Paper & Supplies
Delivery	
25. Insurance	Chauffeurs & Helpers
26.	Garage & Repair
27.	Gasoline & Tires
28.	Freight, Exp. & P. Post

[a] *Proceedings,* 1932, Controllers' Congress.

A useful rule-of-thumb that gives results that often coincide rather closely with the aggregate changes in department store expense as reported by the Harvard Bureau of Business Research is to assume that half the expenses are fixed and half variable—the second varying directly with changes in *dollar* sales. For example, in 1943 sales increased 16 per cent over 1942 when expenses were 31.2 per cent of sales. If 15.6 per cent are fixed and 15.6 per cent variable, the latter group might be expected to rise 16 per cent to 18.1 per cent. Adding the fixed expense of 15.6 per cent gives a total of 33.7 per cent, the 1943 expenses per $100 of sales in 1942. This divided by the 1943 sales of 116 per cent, an increase of 16 per cent over 1942, gives 29 per cent. The actual figure was 28.7 per cent.

This rule cannot be always depended upon, particularly when inflationary or deflationary forces are rampant. Thus, in 1947 even though sales increased 5 per cent over 1946, the expense ratio, instead of dropping, increased from 28.1 per cent to 29 per cent. Factors of inflation that bore no relationship to the volume of business decreased the productivity of the sales dollar.

Volume and Expense Relationship

A variety store merchant had sales last year of $80,000 but because of adverse outside conditions, he planned sales at only $72,000 for this year, a decrease of 10 per cent. Last year his expenses were 28 per cent of sales. He estimated that about half of them were fixed and that the other half tended to vary with dollars of sales. He estimated his expense ratio for this year as follows:

	Last Year		*This Year*
Relative sales	$100		$90
Fixed expenses	14	→	14
Variable expenses	14		12.6 (10% less)
Total expenses	$ 28		$26.6

Expense per cent: $\frac{\$26.6}{\$90} = 29.56\%$

Dollar expenses = 29.56 per cent of planned sales of $72,000, or $21,283.

Degrees of variability in expense. In practice, expenses that tend to increase with increases in sales volume and to decrease with decreases in volume seldom change in exact proportion to changes in dollar sales. Many bear a closer relationship to the changes in the number of transactions than to the changes in the dollar sales. For example, the cost of wrapping usually fluctuates very closely with the number of packages wrapped. Dollar sales might increase through the sale of more expensive merchandise, but the number of transactions might remain constant. In this instance, there should normally be little or no increase in wrapping cost, unless the higher-priced units of sale require more elaborate wrapping. It is also possible that inflationary forces making for higher prices in the value of the unit of sale may increase the cost of wrapping supplies and the wages of wrappers. Thus, wrapping expense *might* vary closely with changes in dollar sales rather than with the number of transactions. Normally, however, the transaction changes are the dominating influence on wrapping expense.

Many variable expenses may be classed as semivariable—that is, they tend to increase as sales increase but not so rapidly. Similarly, they decline more slowly than the decline in sales. For example, if salespeople are paid straight salaries rather than commissions, a 10 per cent increase in sales may require additional personnel, but some of the additional volume can probably be handled by the existing staff at no increase in pay. Thus, the selling pay roll might increase no more than 5 per cent. If the increase of 10 per cent in dollar sales, however, were caused wholly by selling higher-priced goods rather than by completing more transactions, there might be no immediate increase in selling pay roll. But salespeople might soon be able to demand higher salaries in return for their larger dollar sales; pay roll would then increase.

At first sight, the cost of auditing saleschecks would seem to vary directly with changes in transactions, but such is not the case. An auditing department requires a manager, space, and basic equipment that may cost $1,000 during a period in which auditors receiving $1,000 in salaries audit a certain number of sales checks. A doubling in the number of checks may double the auditing staff but not increase the fixed expense of the audit department. Thus the total expense would increase from $2,000 to $3,000, or one-half, as transactions double.

From the few examples given above, it is clear that there are many degrees of variability. Some expenses may move up and down in almost direct proportion to changes in dollar sales; some may vary closely with the changes in the number of transactions and be uninfluenced by changes in the value of the unit of sale; others bear an intermediate position. For internal planning purposes, it is possible to analyze every one of hundreds of expense accounts and to estimate how much it is likely to be influenced by changes in dollar sales and in transactions, but a useful short-hand device, which is more accurate than the rule-of-thumb suggested on page 465, is to classify expenses into these groups:

1. Those that tend to vary directly with changes in transactions.
2. Those that are semivariable.
3. Those that are fixed.

Since there are so many degrees of semivariability, it is reasonable to assume that semivariable expense varies 50 per cent of the sales variation—that is, if sales go up 20 per cent, that it will collectively go up 10 per cent; if sales drop 20 per cent, that it will drop 10 per cent.

For example, a store may plan a 20 per cent decline in dollar sales but, owing to deflation, only a 10 per cent decline in transactions. Its present expenses may be 30 per cent, which are estimated to be distributed as follows:

One-third directly variable with transactions.
One-third semivariable.
One-third fixed.

The following calculations may then be made based on sales of $100 for this year:

	Last Year	*This Year*
Transactions	100	90
Dollar sales	$100	$80
Directly variable expenses	10	9.0 (down 10%)
Semivariable expenses	10	9.5 (down 5%)
Fixed expenses	10 →	10.0 (same)
Total	$30	$28.5
Per cent of expenses	30%	35.6% (28.5 ÷ 80)

The break-even point. The fact that dollar expenses generally change more slowly than do dollar sales has led to the concept of the break-even point. This is the minimum sales volume required, at current margin and expense relationships, to avoid an operating loss. The usual way to determine this point is (1) to classify expenses into groups, fixed and variable; (2) to determine the ratio between the variable expenses and the sales; (3) to determine the current gross margin ratio; (4) to subtract the variable expense ratio from the gross margin ratio; and (5) to divide the remainder into the fixed expenses.

For example, with sales of $1,000,000, fixed expenses may be $140,000 and variable expenses $160,000. The variable expenses are then 16 per cent of sales. The gross margin may be 36 per cent. The break-even point is the volume level at which the gross margin of 36 per cent will just equal the fixed expenses plus the variable expenses, which it is assumed will continue to be 16 per cent of sales. Since 16 per cent of the gross margin of 36 per cent will be absorbed by variable expenses, only 20 per cent of sales is left for the fixed expenses of $140,000. The sales, then, are $140,000 divided by .20 or $700,000. Thus, a decline of 30 per cent in volume from the current $1,000,000 level will reach the theoretical break-even point.[5]

The break-even point may also be calculated graphically by drawing a chart similar to Figure 57 on page 469. Sales are plotted along the X-axis and expenses along the Y-axis. A straight line is drawn from 0 to the point on the chart where the

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[5] Algebraically: Let x = sales at break-even point

$$\begin{aligned} \text{And } .36x &= \$140{,}000 + .16x \\ .20x &= \$140{,}000 \\ x &= \$700{,}000 \end{aligned}$$

current sales volume and current gross margin intersect. A second straight line is drawn from the point on the *Y*-axis that measures the fixed expense to the point where the current sales volume and current total expenses intersect. Where these two lines intersect is the break-even point.

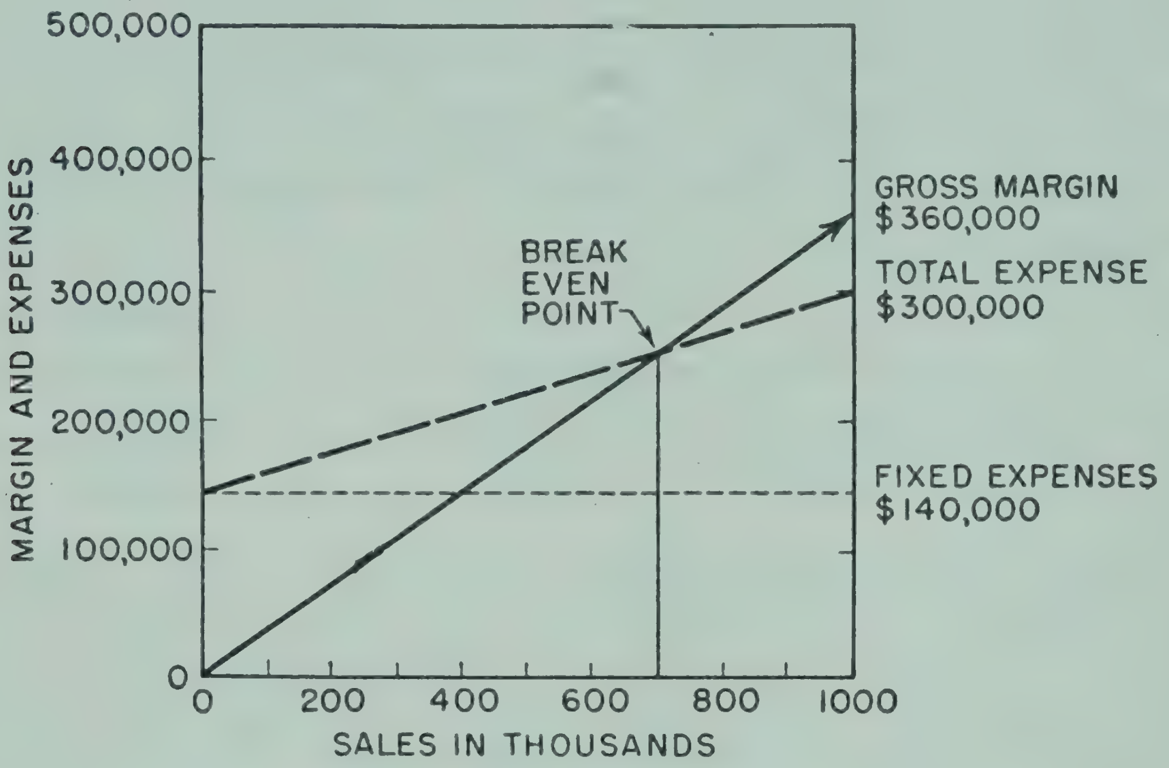

FIGURE 57. Break-even Point.

Another way to calculate the break-even point is by means of a chart similar to Figure 58 whereby the expense line is not

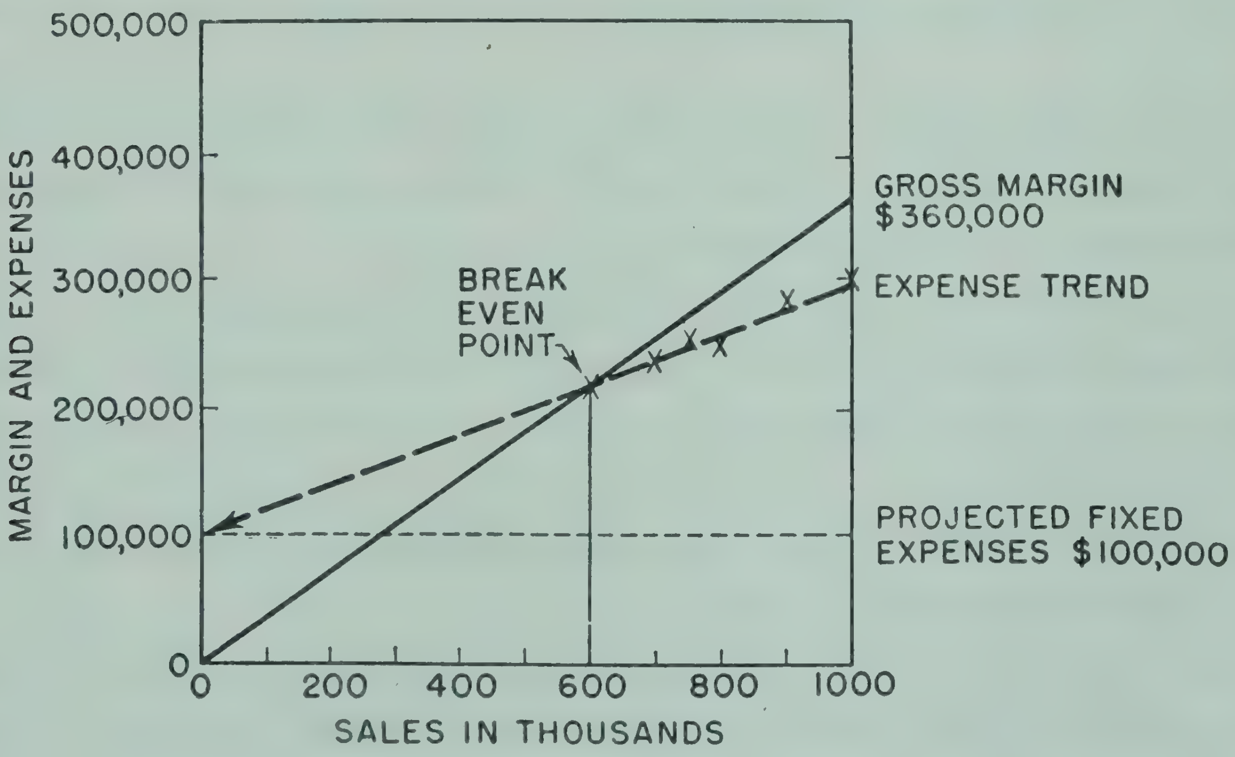

FIGURE 58. Break-even Point.

drawn from a fixed expense point on the *Y*-axis to the present expense figure, but is rather extended back to a hypothetical fixed expense figure by fitting a straight line to the expense points (on the chart) of the past few years and projecting it to the left to the zero sales point. The gross margin line is drawn as before.

For example, with current sales of $1,000,000 the gross margin may again be $360,000 and total expense $300,000. But in the past four years, the following sales and expenses may have occurred.

	Sales	*Expense*
Last year	$900,000	$280,000
Year before	800,000	256,000
Year before that	750,000	250,000
Year before that	700,000	240,000

Plotting these expense points on the chart and extending a line of best fit to the left cuts the gross margin line at about $600,000. This indicates that if normal relationships between expenses and sales continue at present gross margin rates, there will be no profit when volume drops to $600,000. Projecting the line further to the left indicates that were sales to fall to zero, expenses would still be $100,000.

Expense Distribution to Departments

The distinguishing feature of a departmentized store is that expenses are allocated to each department so as to determine the relative profitability of each.

Some merchants question why it should be necessary to compute operating profits for separate selling departments at all. The suggestion is made that departmental analyses end with gross margin, that all the departmental gross margin figures be combined and store-wide expenses subtracted from them to yield a store operating profit.

Reasons for expense distribution. There are four reasons why expense distribution is generally deemed to be of value, in spite of its cost.

First, it makes the selling department managers interested in the problem of expense control. If they know that they are to bear a share of the store's expenses, they will help to keep these expenses down. For example, if the manager knows that every package delivered from his department will be charged against him, he will urge more "take" transactions and may even avoid heavy promotion of bulky, low priced goods that the store will have to deliver. The same reasoning applies to such expense-creating activities as the handling of adjustments, the auditing of saleschecks, and the use of space. Were no expenses charged to departments, managers might make excessive demands upon the store for service and run up the expenses unduly.

Second, expense distribution aids in the evaluation of departments. Top management needs to determine which departments are weak so that it may concentrate attention on them. The departments that show a loss after being charged a fair share of the expense load are the ones that need special study. Also, the departments that prove particularly profitable are the ones that usually deserve additional investment in the form of space, inventory, or advertising. Such departmental evaluation may lead to the elimination of certain unprofitable departments, provided a line of merchandise that can earn a larger gross margin or can operate with less expense can be substituted for them.

Third, expense distribution aids in the evaluation of buyers who manage departments. The higher salaries and bonuses should go to the buyers whose departments can earn the larger profits. It is inequitable to judge buyers and compensate them on a basis of sales and gross margins alone, since some have more expensive operations than others from an expense standpoint.

Fourth, expense distribution aids in the planning of the markup percentage for each department. As noted in Chapter 7, the markup equation requires a knowledge of the expense ratio. If there is no proration, it would have to be assumed that the expenses of all departments are the same per cent, and markups would not reflect the very real differences in expense that exist in operating the different lines.

Distribution on a basis of sales. The old method was to distribute all expenses to departments on a basis of dollar sales; the department that sold 1 per cent of the store volume was charged 1 per cent of all the expenses, and so forth. This easy but now largely outmoded method assumes that every department makes use of store service in direct proportion to its dollar sales volume, an assumption far from true. For example, some departments have a relatively low sales volume but occupy a great deal of space and burden the store operation with a great many small transactions. Such a department does not bear its fair share of expense if dollar sales are used as the basis of proration. Conversely, the department doing a large volume, in the form of a relatively few expensive units and in a small space, is overcharged on a sales basis. It would be better to make departmental comparisons wholly on a basis of gross margin and to make no attempt at expense distribution at all.

Direct or indirect expenses. An analysis of expenses from the angle of selling departments reveals that they are of two kinds, direct and indirect. Direct expenses are those that are incurred for the benefit of a specific department (or other single segment of the sales of a store), whereas indirect expenses are those that are incurred for the benefit of the store as a whole or at least for a number of departments. Direct expenses include the following departmental figures: pay roll, advertising, supplies, buyer's traveling and communication expense and interest, taxes, and insurance on the department's inventory. Indirect expenses include the cost of operation of nonselling departments and services that are provided all selling departments. Credit department expense is an example. These expenses are often called "joint costs."

Escapable and inescapable expenses. Most direct expenses are "escapable," in that they would stop if the department incurring them were to be eliminated. Most indirect expenses are "inescapable" in that most of the store-wide expenses would continue even if one department were shut down. However, some indirect expenses are escapable. For example, it may cost the store \$500 to audit a total of 10,000 sales checks. If one department issuing 1,000 checks were eliminated, the cost of auditing would be reduced somewhat, but in all probability less than 10 per cent. If the cost of handling the 9,000 checks remaining were \$475, the escapable indirect expense would be \$25. This is also called the "marginal" cost of handling 1,000 checks as distinct from the "average" cost which would be \$50 (\$500 ÷ 10 units of 1,000 each).

Controllable profit. Direct expenses do not require proration to departments in that when the expense is incurred it is clear which department benefits. Thus, the expense can be charged directly to the department. Today, it is the standard practice of departmentized stores to charge these expenses directly rather than to use the proration method. Direct expenses (often with additions of so-called semidirect expenses to be explained later) are subtracted from departmental gross margin to arrive at a figure between gross margin and operating profit. This is called by various names, such as *controllable profit, seminet profit,* and *departmental contribution.* The figure is controllable in the sense that the department manager has considerable control [6] over his direct expenses and can therefore be held responsible for showing an adequate margin of profit over these expenses. It is a department contribution in that it represents the amount the department contributes (over its own costs and expenses) to the store's joint expenses and to store profit.

Prorating indirect expense. Some stores today make no attempt to distribute indirect expense to selling departments, charging them only with direct and possibly semidirect expenses, which will be explained later. It is argued that proration of indirect expense is expensive and that little is gained. Department managers have little control over these expenses and can best be rated on a basis of their controllable profits. It is also believed that departments can be better analyzed in the light of their controllable profits than of their operating profits. It is pointed out that the apparent loss a department may show after proration of indirect expense cannot be taken as an indication of the department's importance to the store. For example, a department achieving 5 per cent of a store's sales volume may show a gross margin of $100,000 with direct expenses of $65,000. In addition, it may be charged approximately 5 per cent of the store's joint expenses of $1,000,000 or $50,000. Apparently, the department is losing $15,000 a year. But were it to be discontinued, only the $65,000 direct expense would be eliminated. The $1,000,000 store expense might be reduced somewhat, but certainly not 5 per cent; the net reduction might be only $10,000. To eliminate the department would eliminate an income of $100,000 and expenses of $75,000 ($65,000 direct expense plus $10,000 indirect expense). Thus, the store would be $25,000 worse off were it not for this department. Of course, it is possible that another department could take its place that would be able to carry more of the expense burden, but often this is not the case. It is usually better to continue to try to improve departments that show some controllable profit than to eliminate them because they fail to bear what is deemed to be a fair share of the joint expenses.

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[6] It should be observed that the degree to which a department or store manager controls the direct expenses of his department or store varies greatly. The size and compensation of his sales force may be determined by the store superintendent and the amount spent for advertising by the advertising manager.

Even though the evidence seems conclusive that a controllable profit should be arrived at for each department, there is still a good case for charging indirect expenses to departments also, and showing an operating profit for each, provided sound bases for proration are used. The practice of proration helps management decide where to concentrate its attention. If a department cannot contribute enough to carry what is deemed to be its fair share of overhead, efforts should be made to increase its gross margin or to cut its direct expenses. The practice of proration also helps in planning departmental markups. It gives a guide as to how much expense to allow for in the markup. Were only a controllable profit to be available, it would be hard to determine how large it ought to be in order to contribute adequately to the joint costs of the store. Nevertheless, it is better not to prorate than to use unscientific methods to do it.

Semidirect expenses. There is a growing tendency to break down indirect expenses into two groups: (1) expenses for which there is a distinct measure of the service provided each department and (2) other expense items that bear no particular relationship to the activities of the selling departments. The former are sometimes called "semidirect." For example, rent is an example of a semidirect expense since each department's share can be measured by the space occupied by each. Executive office expense is an example of the other group of indirect expenses. Many stores today include what they deem to be the semidirect expenses along with direct expenses and set up the departmental statement as follows:

Gross margin		$34,000
Direct expenses	$16,000	
Semidirect expenses	8,000	
Total		24,000
Controllable profit		$10,000
Other store expense, prorated		6,000
Operating profit		$4,000

Other store expense is prorated largely on a sales basis but semidirect expense is distributed upon the basis of the unit that best measures the service rendered to the selling department.

There is difference of opinion as to what expenses to regard as semidirect, but most stores agree on the following:

Window display and sign writing.
Rent (fixed plant and equipment costs).
Light, heat, and power.
Delivery expense.

Window displays may be distributed to departments by setting up a daily rate for each window and charging each department for the length of time its goods occupy window space.

Rent may be distributed by determining a square-foot rental value for each floor and by charging each department for the space it occupies.

Light, heat, and power expense may be distributed in a similar manner or on a basis of the *cubic* feet of space occupied by each department.

Delivery expense proration involves determining a package delivery cost and charging each department for the number of packages delivered. Adjustments may be made for size and weight of packages, and for the number of customer returns.

Kinds of Profit

	Sales	$100,000
	Cost of sales	70,000
(1)	Gross margin	$ 30,000
	Controllable expense	20,000
(2)	Controllable profit	$ 10,000
	Other expenses, prorated	4,000
(3)	Operating profit	$ 6,000
	Net other income	2,000
(4)	Net profit	$ 8,000

Some large stores include many other expenses as semidirect expenses. Thus, the cost of the adjustment department is fairly distributed on a basis of the number of adjustments originating in each department, the cost of auditing sales on a basis of the number of sales transactions handled, and the charge authorization cost on a basis of the number of charge transactions. In fact, some stores operate on the theory that the selling departments purchase every service, reflected in the expense figures, on a predetermined basis. The department manager knows in advance approximately how much he will have to pay for every adjustment, for every sales check audited, for every package delivered, for every foot of space used, for every employee hired and trained, for every invoice received and the like. Thus, he does have some control over every expense charged against him since he can manipulate the number of units of service he purchases from the store management.

Table XI indicates the bases suggested by the Controllers' Congress of the National Retail Dry Goods Association for the distribution of the various functional classes of expenses. It will be noted that many are to be charged directly, many on a basis of clearly defined units of service—these are the semidirect expenses—and a few on the basis of sales. Each sub-functional classification of expense is assigned the number indicated. This number is followed by the number of the natural expense classification. For example, 42-1 represents the payroll expense in the sales promotion office. Appendix D explains in detail how the various bases are applied.

TABLE XI

EXPENSE DISTRIBUTION CHART

Functional Classification	*Basis of Distribution*
ADMINISTRATIVE:	
21—Executive office	Sales
22—Accounting office:	
Auditing	Number of transactions
Accounts payable	Number of invoices and returns
Statistical	Part direct—balance equal for each department
Cashier (salary and general office)	Sales
23—Accounts receivable and credit office:	
Accounts receivable	Number of charge transactions
Credit office	Charge sales
24—Superintendency:	
Mail and telephone order	Number of orders
Merchandise adjustment office	Number of adjustments
Training and welfare and other superintendency	Average weekly number of employees on a clerk-day basis
25—General store:	
Interest on merchandise	Average cost of stock (4 per cent per annum)
Insurance on merchandise	Average cost stock (direct)
Other general store	Sales

TABLE XI—Cont.

OCCUPANCY:	
31—Operating and housekeeping:	
Repairs	Direct
Other expenses	Area occupied
32—Fixed plant and equipment cost:	
Land, building, and building equipment charges (semidirect)	Space valuation
Fixture and equipment charges	Fixture valuation
33—Light, heat and power (semidirect)	Area occupied
PUBLICITY:	
42—Sales promotion office	Sales
43—Newspaper and general advertising:	
Direct advertising	Direct
Institutional advertising	Sales
44—Direct mail:	
Advertising (supplies and postage)	Direct
Mailing lists and other unclassified	Sales
45—Display:	
Windows (semidirect)	Direct
Signs (semidirect)	Direct
Interior display and institutional windows	Sales
BUYING:	
52—Merchandise management:	
Merchandise managers and assistants	Group sales
Buyers, assistants, and clericals	Direct
Merchandise control	Clerk hours
Direct buying expenses	Direct
Other buying expenses	Sales
53—Domestic and foreign buying offices	Purchases
54—Receiving and marking:	
Receiving	Number of invoices and returns (weighted)
Marking supplies	Direct
Marking expenses	Marker hours
SELLING:	
61—Compensation of salespersons	Direct
62—General selling:	
Floor managers and assistants	Average weekly number of employees on a clerk-day basis
Stock and clericals	Direct
Wrapping and packing (including supplies)	Per package cost
Salespersons' supplies	Direct
Miscellaneous selling expense	Sales
63—Delivery	Weighted schedule

Variable and fixed departmental expense. Some stores classify the expenses charged to a department as (1) those that tend to vary with transactions handled and (2) those that are relatively fixed.[7]

In presenting the operating statement to the buyer, first the gross margin is determined in the usual way and then the variable expenses deducted to obtain contribution to department fixed expense and profit. Next, the department fixed expense is subtracted, yielding the department's controllable profit.

The buyer's responsibility ends with this controllable profit, he need not concern himself with other store expenses over which he has no control.

The distinction between departmental variable expense and departmental fixed expense is most important. If variable is small, relative to fixed, an increase in volume should yield a large increase in profits; in fact, it may be desirable to cut markup if such a cut would increase volume considerably. On the other hand, if variable is large, physical volume increases will show smaller increases in profits and probably provide no room for lower prices.

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[7] In one large store that charges many semidirect expenses to each department, the departmental variable expenses are listed as follows:

Salaries of salespeople, order fillers, and stock clerks (direct)
Selling supplies (direct)
Wrapping and packing (prorated on packages wrapped)
Delivery (prorated on number of pkgs. delivered)
Receiving (prorated on a basis of number of invoices and units of marking)
Accounts payable (prorated on number of invoices)
Sales audit (prorated on number of sales transactions)
Adjustments (prorated on number of adjustments)
Cashiering (direct or on number of cash transactions)
Telephone order board (prorated on number of telephone orders)
Returns to stock (prorated on number of returns)
Authorization of charge transactions (prorated on number of charge transactions)

The following items are classified as fixed departmental expense:

Merchandise control
Merchandise manager's salary (part)
Buyer's and assistant's salaries
Section manager's salary
Traveling expense
Internal display expense
Advertising—While as a matter of policy, this may vary with volume, there is no cause and effect relationship.

These conclusions may be demonstrated as follows where it is proposed to double physical volume by cutting markup:

	Department A		*Department B*	
	Present Markup	*Proposed Markup*	*Present Markup*	*Proposed Markup*
	35%	30%	35%	30%
Sales	100	200	100	200
Margin	35	60	35	60
Variable expense	15	30	25	50
Fixed expense	15	15	5	5
Controllable profit	5	15	5	5

In department B, variable expenses increase so much with volume that there is no increase in profit at the lower markup needed to achieve this volume. Thus, it is in departments with a relatively low variable expense that promotions at a low markup are especially profitable.

Small store expense distribution. The expense and complications involved in a thoroughgoing proration plan make it unsuitable to the needs of small stores. Stores with sales volume in the millions can probably well afford the detailed operations suggested, but the smaller department store and departmentized chain or independent unit will find them too elaborate. For many of these, the best plan is probably to charge direct expenses to departments and possibly the items classified as semidirect, obtaining a controllable profit figure for each department. No attempt will be made to charge other expenses to departments. For still smaller stores, where it is not feasible to keep departmental records of even direct expenses, there is another method. The United States Department of Commerce in its Louisville Grocery Survey worked out a simple plan that does determine roughly the expenses that each line of goods should bear. All expenses were classified under three heads as follows:

1. Maintenance expense—all expenses that would occur and continue whether or not sales are made. These include most administrative and occupancy expenses.
2. Movement expense—all expenses for labor used directly in the movement of commodities into and out of the store. It includes buying, selling, and publicity expenses.
3. Credit expense—expenses of extending credit to customers. It includes accounts receivable, credit and collection office, bad debt losses, and possibly interest on outstanding accounts.

Maintenance cost may be prorated on a basis of average merchandise investment at cost. That is, the total maintenance cost of the store is divided by the average cost inventory to determine the expense per dollar of inventory. The average cost stock of each selling department is then multiplied by the unit of cost to find how much maintenance expense to charge to the department.

Movement cost is prorated on a basis of the total number of units sold, or number of transactions.

Credit cost is prorated according to dollar sales.

For example, the total maintenance cost in a small store may be $5,000 and the average cost stock $20,000. The cost per dollar of investment, then, is 25 cents. The total movement cost may be $20,000 and the number of sales transactions 40,000. The movement cost per transaction, then, is 50 cents. The total credit expense may be $1,000 and the dollar sales $100,000. The cost per dollar of sales is 1 cent.

If one department in this store had a cost stock of $5,000, sales transactions of 5,000, and dollar sales of $20,000, it would be charged as follows:

Maintenance	5,000 × $.25	$1,250
Movement	5,000 × $.50	2,500
Credit	20,000 × $.01	200
Total expense charged to the department		$3,950

Under this plan, no attempt is made to charge any expenses direct to selling departments. All are prorated on one of these bases, but the sales basis is used only for *credit*. In the above example, if the sales basis had been used throughout, the department would have been charged $5,200 (20 per cent of $26,000) rather than $3,950. The department would be penalized for its heavy sales, even though the number of transactions that had to be handled for this department were relatively small.

Certain refinements might be introduced. For example, it would not be difficult to distribute occupancy expenses upon a basis of space occupied rather than average inventory. As a compromise plan, the following bases may be suggested for the small store:

Administrative expense.	Number of sales transactions.
Occupancy expense.	Area of space occupied.
Publicity expense.	Dollar sales.
Buying expense.	Value of cost purchases.
Selling expense.	Number of sales transactions.

The proration procedure of the large store is becoming standardized along the lines laid down by the Controllers' Congress. There is a need to develop and gain acceptance for a simple but sound system for the small store that has only a few expense classifications and that requires only a few bases of distribution.

Prorating Expenses to Items

Few merchants make any attempt to charge expenses to specific items of merchandise—only to departmental groupings. But there are times when such an analysis would be useful, particularly if a merchant is considering eliminating a brand, a merchandise line, or a retail price line.

Ordinarily the relative profitableness of different items is measured by their relative markup percentages and their relative sales volume, but without some allowance for differences in expense, erroneous conclusions might be arrived at. For example, item A may have a gross margin of 25 per cent and sales volume of $1,000 during a six-month period. Item B may have a gross margin of 35 per cent and a sales volume of $400 during the same period. On a basis of percentage gross margin alone, item B appears much more profitable. When volume is considered, it is found that item A contributes a dollar margin of $250 (25 per cent of $1,000) and item B a dollar margin of only $140 (35 per cent of $400). Item A now seems to be the more profitable. But a consideration of differences in expenses may lead to a still different conclusion.

Conceivably, an attempt might be made to charge a portion of all expenses to the items in question, but the job would be even more burdensome than the prorating of expenses to departments and little would be gained. It must be recognized that many expenses of a store or of a department are joint costs; they would be neither larger or smaller if one item of merchandise were eliminated or added. Even physical handling costs might be unaffected by the buying and selling of any particular item. But there are a few expenses that should be considered as a part of the cost of the individual article. When a merchant adds an item to stock, he must (1) allocate space to store, display, and sell it; (2) invest money in it and protect this investment; and (3) possibly assume some special direct expenses that he would not incur if this particular item were not handled. These three classes of expenses should be charged against the total gross margin contributed by each item in order to determine which is making the largest contribution.

In order to make such an expense distribution to items A and B, already referred to, it is necessary to know certain facts about the store or department as a whole and about each of the items in question. For example, the store may occupy 3,000 square feet of selling and storage space, as distinct from service space (aisles, stairs, rest rooms, office, and similar nonselling space). Its total space cost (rent, light, heat, power, and depreciation on fixtures and equipment) may be $6,000 for the six month period of which $4,500 may be allocated to selling and storage areas. The space charge per square foot then is $1.50 ($4,500 ÷ 3,000).

Analyzing the Profitability of a Brand

In a department with a 40 per cent markup and a 20 percent controllable profit (after space, inventory, and delivery expenses) a buyer carried a line of nationally advertised shirts that cost $2.25 each and sold for $3.50, a markup of 35.7 per cent. About 10 per cent of the shirts had to be marked down to $2.50 for clearance. The buyer sold 1,000 of these shirts a year. They occupied 30 square feet of space worth $5.00 a square foot. They tied up a cost investment of $350 and the department's inventory expenses were 8 cents per dollar of merchandise investment. Half the sales were delivered at a cost of 15 cents a unit.

With the above information, the buyer figured the profit on this brand of shirts as follows:

Sales 900 × $3.50	$3,150
Sales 100 × 2.50	250
Total Sales	$3,400
Cost 1,000 × 2.25	2,250
Gross margin	1,150
Space expense 30 × $5	150
Inventory expense $350 × .08	28
Delivery expense 500 × .15	75
Total controllable expense	$253
Controllable profit	$897
Controllable profit per cent (897 ÷ 3,400)	26.4%

The buyer concluded that this line was more profitable than the average item in the department, in spite of the low markup.

The average merchandise investment at cost in the store may be $25,000 for the period and the total expenses associated with carrying this inventory may be $1,000. These would include interest on the merchandise investment for six months (probably at the annual rate of 4 per cent), insurance on the inventory, and a portion of salaries expended for care and safeguard of stock. This cost per dollar of investment, then, is 4 cents ($1,000 ÷ $25,000).

Item A with sales of $1,000 and a margin of 25 per cent may sell at $1 each or total unit sales of 1,000. The stock of this item may occupy 20 square feet of space and require an average stock investment at cost of $400. And the item may be of such a bulky nature that 90 per cent has to be delivered at a cost of 20 cents a unit paid to an outside delivery company.

Item B with sales of $400 and a margin of 35 per cent may sell for $2 each or total unit sales of 200. The stock of this item may occupy 6 square feet of space and require an average investment at cost of $200. This item may be of such a nature that only half the sales are delivered.

The two items may now be compared as follows:

	Rate Per Unit	*Item A* *Number of Units*	*Total*	*Item B* *Number of Units*	*Total*
Sales		1,000	$1,000	200	$400
Gross margin			250		140
Space cost	$1.50	20 sq. ft.	$ 30	6 sq. ft.	$ 9
Inventory cost	.04	$400	16	$200	8
Delivery cost	.20	900	180	100	20
Total prorated expense			$226		$ 37
Contribution (excess of gross margin over expenses)			$24		$103

Thus, item B is found to be the more profitable. After paying for the space it occupies, the money it ties up, and its own delivery expense, it contributes $103 to help pay the other expenses of the store or department. Item A contributes only $24. If another item can be found to substitute for A, one that will in all probability make a larger contribution, the switch would be desirable.

It must not be concluded that any item that makes no contribution should be eliminated. If the margin on item A exceeded only the direct delivery cost of $180, it might be wise to continue it. Rent and other space costs would still have to be paid and inventory costs might not be reduced by the elimination of the one item. It is better to carry an item that makes some contribution to space and inventory costs than to cut out the item with no substitution. However, many products on the market are clamoring for a place in a store's stock and an attempt should be made to find the items that will pay their own way. Space is strictly limited in every store and usually capital also. Accordingly, the items allowed to remain in stock should be those that make the largest contributions. Table XII, taken from the Louisville Grocery Survey, applies the reasoning explained above to seven brands of coffee carried in one store. There is a difference from the example cited above; in the table, space cost and inventory cost have been combined into one figure called "Maintenance Cost," distributed upon a basis of the average merchandise investment in each brand. Total grocery department maintenance cost was divided by total cost inventory to obtain 13 cents per dollar of inventory. This factor multiplied by the average inventory of each brand carried gives the expense chargeable to each item.

It is interesting to note from the table how inaccurate it would be to compare brands on a basis of gross margin percentage alone. Thus, brand G, with the lowest margin per cent (6) makes the second highest contribution (see column 5) because of its high sales at a maintenance cost of only 88 cents.

To combine space cost with inventory cost, as has been done here, is not as accurate as it would be to handle them separately, as was done in the previous example. To combine the two figures into one maintenance cost assumes that space assigned to each item bears a close relationship to the value of the inventory of each and this is often *not* the case. It must be recognized, however, that the method used in Table XII is considerably simpler than the use of the more accurate method used on page 485.

Estimating controllable profit on individual items. On page 132 in Chapter 8, there was a discussion of the relationship among sales volume, markup, and aggregate gross margin. Methods were presented to determine what increases in volume are necessary to offset cuts in markup or in retail price. But no consideration was given to differences in expenses at different levels of volume.

TABLE XII

RELATIVE PROFITABILITY OF SEVEN BRANDS OF PACKAGED COFFEE[a]

Brand	*(1) Average Inventory Investment*	*(2) Maintenance Cost (Column 1 × $0.13)*	*(3) Value of Sales*	*(4) Gross Margin*	*(5) Excess of Gross Margin Over Maintenance Costs (4–2)*	*(6) Gross Margin as Per Cent of Sales*
D	$2.48	$0.32	$2.75	$0.39	$0.07	14.2
E	1.35	.18	1.00	.10	—.08	10.0
F	1.62	.21	4.95	.78	.57	15.8
G	6.76	.88	112.50	6.75	5.87	6.0
H	3.31	.43	10.00	.70	.27	7.0
I	5.40	.70	207.69	39.05	38.35	18.8
J	1.28	.17	.45	.05	—.12	11.1

[a] Source: Louisville Grocery Survey, Part III–A, Merchandising Characteristics of Grocery Store Commodities, Distribution Cost Studies No. 11. Bureau of Foreign and Domestic Commerce.

When it is possible to estimate the expense of handling each unit of sale and when the outlay for advertising is known, it is possible to plan the volume necessary to achieve a "controllable profit" goal. For example, a store may be selling a certain brand of tooth paste, costing 30 cents, for 50 cents retail. At this price one dozen may sell a week with about $52 spent a year to advertise the brand—or $1 a week. Direct handling expenses (costs of ordering, receiving, selling, and wrapping) may be estimated at 5 cents a transaction. The weekly contribution of this item toward joint expenses and profit of the store may then be estimated as follows:

Weekly sales ($.50 × 12)		$6.00
Weekly cost ($.30 × 12)		3.60
Gross margin		$2.40
Advertising expense	$1.00	
Handling expense ($.05 × 12) ..	.60	
Total direct expense of the item		1.60
Item's contribution		$ .80

The merchant may be considering reducing the price of this brand to 45 cents and doubling the amount of advertising. The question arises as to how many units he would have to sell to justify the changes. Clearly, he would have to realize a contribution from this brand of at least 80 cents a week and he would have to realize even more to cover his advertising outlay, in this case $2. The $2.80 he needs each week for "contribution" and advertising is to be realized by selling goods costing 30 cents for 45 cents, a margin of 15 cents. But 5 cents of this margin must go to handling expense, leaving only 10 cents from each transaction for "contribution" and advertising. Since $2.80 in total is to be realized at the rate of 10 cents per item, 28 items will have to be sold each week. Since 12 are selling now at the 50 cent price, the cut in price cannot be justified unless it increases volume more than 2⅓ times.

The reasoning above may be expressed as an equation:

$$\text{Unit volume needed} = \frac{\text{Contribution} + \text{Advertising expense}}{\text{Unit markup} - \text{Unit handling expense}}$$

This equation allows for four variables and accordingly can be applied to a variety of variations in plans. For example, an article costing 75 cents may be selling for 95 cents at the rate of 100 a week. Handling costs may be 3 cents each and advertising $10 a week. The contribution, then, is:

Sales ($.95 × 100)		$95.00	
Margin ($.20 × 100) ..		20.00	
Advertising	$10.00		
Handling	3.00	13.00	(expenses charged against the item)
Contribution		$ 7.00	

The merchant may deem this contribution too small in relation to the sales of $95 and may contemplate increasing the price to $1 and spending no more for advertising than before. The question is how much volume can he afford to lose if he aims at a minimum "contribution" of $10 a week from this item:

$$\text{Unit volume needed} = \frac{\$10 + \$10}{.25 - .03} = \frac{\$20}{\$.22} = 91$$

Thus, if the increase in price from 95 cents to $1 will reduce volume only 9 per cent, the change will be profitable. The maximum loss in volume—the point at which the increase in price gives the same contribution as before—may be calculated as follows:

$$\text{Unit volume needed} = \frac{\$7 + \$10}{.25 - .03} = \frac{\$17}{\$.22} = 77.$$

Thus, if the price increase resulted in a 23 per cent loss in volume, the same contribution as before would be realized.

The formula may be used to allow for changes in handling expenses per unit also.

REVIEW QUESTIONS

1. Why is standard expense classification important?
2. What are the five functional classifications of expense for department and specialty stores?
3. What are the sub-functional classifications of each of the five?
4. Into what functional groupings are chain store expenses classified?
5. What is meant by the natural divisions of expense?
6. If a store is large enough to use both functional and natural classifications of expense, which would be the first breakdown?
7. Distinguish between fixed and variable expenses. Give examples of each.
8. What is a rule-of-thumb in planning changes in expense relative to changes in sales?
9. What is meant by the statement that "there are many degrees of variability" in expense?
10. What three classes of expense may be set up from the standpoint of variability? Why is it reasonable to assume that semivariable expenses tend to vary by one-half the variation in transactions?
11. Give an example of a modification of the rule-of-thumb, referred to in question 8, that gives more accurate results.
12. What is meant by the break-even point? What assumption is made in regard to the current margin relationship?
13. Show how the break-even point may be calculated by:
    a. the arithmetic method
    b. the algebraic method
    c. the graphic method

14. Explain a modification of the graphic method whereby the expense-sales ratios of the past few years are projected to determine the break-even point.
15. What are the advantages of distributing expenses to selling departments?
16. Why is it undesirable to prorate most expenses on a basis of sales?
17. Distinguish between *direct* and *indirect* expenses.
18. Distinguish between *escapable* and *inescapable* expenses.
19. What is meant by controllable profit? What are synonyms for this term?
20. Why may the proration of indirect expense to selling department lead to wrong conclusions?
21. What are the advantages of prorating indirect expense on a scientific basis?
22. What is meant by semidirect expenses?
23. What items are commonly so classified?
24. What are sound bases for prorating these items?
25. What is the theory underlying the plan to treat most expenses, other than direct, as semidirect?
26. What expenses of a selling department may be classified as fixed? What as variable?
27. What is the significance of differentiating between different fixed and variable expense?
28. What three bases may be used for prorating expenses in a small store that keeps no records of direct departmental expense? Give an example of the application of this method.
29. Instead of three, what five bases may be suggested for proration in the small store?
30. Why is it sometimes helpful to prorate expenses to individual items?
31. What are the three classes of expense most closely related to the handling of an individual item?
32. Explain the procedure of distributing three kinds of expense to items and of determining an *item contribution* figure for each?
33. How did the Louisville Grocery Survey compare the relative profitability of different brands of coffee?
34. How much additional volume is needed to offset a cut in markup? What factors should be considered?
35. How may these factors be arranged into a formula?
36. Suggest three different situations in which this formula would be useful.

26

How to Plan and Control Expenses

Planning Expenses

Importance of expense planning. The total expense figure of a store is one of the three primary factors that should be considered in endeavoring to merchandise profitably.[1] Attempts to budget and control expense are not synonymous with attempts to lower expense. The expense budget should reflect the best possible balance that can be achieved among the factors of profit making. This reasoning applies more to the store as a whole than to individual departments. While the cost accountant would desire to see each department stand as an independent unit, being charged as fairly as possible for a share of the store expenses that it jointly incurs, the merchant is primarily interested in the "altogetherness" of his business profits. He has been content to carry certain lines at an apparent loss, provided others could earn large profits. In order properly to serve his clientele, a merchant must carry the lines and the assortments in each line that customers normally expect in his type of store. Lines will be carried at a loss, so long as they round out the stock and so long as a profit on the total operation is possible.

Trend in expenses. According to the Harvard Bureau of Business Research, the percentage of expenses to sales in department stores has generally borne an inverse relationship to changes in sales volume. As sales declined from 1929 to 1933, the expense ratio moved sharply upwards. With the rise in sales from 1933 through 1936, the expense ratio dropped. The ratio rose during the unsettled period of late 1937 and 1938, and then with the sustained rise in sales, dropped to a long-time low (27.4) in 1944. But the normal relationship failed to hold during the next few years; sales continued to increase but the expense ratio rose also because of inflation.

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[1] The other two are sales and markup.

The normal relationship, in which expense ratios move in inverse relationship to sales, is caused by the fixed nature of many expenses. Thus, dollar expenses normally do not increase as fast as sales do, nor do they drop as fast. The situation after 1945 indicated a serious maladjustment, with dollar expenses rising even faster than the increases in sales volume.

The distinction between the trend in the expense rate and in the dollar expenses should be noted. There has been considerable positive correlation between the trend in dollar expenses and the trend in dollar sales, but the trend of dollar expenses has fluctuated less than the fluctuations in sales, accounting for the changes in the expense percentages referred to above.

It might normally be supposed that dollar expenses would vary very closely with the number of transactions handled, but ever since 1940 expenses have been gaining at a faster rate than the number of transactions, indicating an upward trend in the expenses of handling an individual transaction. Thus, in 1948 it cost nearly two times as much to handle one sales transaction as it did in 1939.[2] Should the value of the sales transaction drop sharply, it might prove impossible to bring down expenses in proportion, and profits would be wiped out. Thus, a major problem in expense control is to decrease the cost of handling each sales transaction, or at least to avoid any further increase in this cost.

Setting the control figures for expenses. Since the goal of retail-store operation is the realization of a net profit, many have come to the conclusion that profits should be a planned, not a resultant, figure; that is, rather than hoping that a profit will result from an attempt at economical operation, it is felt that a certain profit objective should be set in dollars and that the expense figure should be the resultant one.

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[2] Sixty-seven cents in 1939 and $1.245 in 1948.

The logical way to plan expenses, then, is as follows:

1. Estimate the *probable* sales volume for the period in question of either six months or a year. As pointed out in Chapter 19, in the case of department stores, a total store estimate should be made and also estimates for each department. If the aggregates of the latter fail to agree closely with the former, adjustments should be made.
2. Estimate the probable percentage of gross margin that will be realized and apply this to planned sales to find planned gross margin. Again estimates should be made for the store as a whole and for each department.
3. Plan a dollar profit goal based on previous experience, changes in business conditions, and changes in management. More specifically the amount to be set aside for profit should be guided by:
    a. Past performance of the business.
    b. Average earnings of the better stores throughout the country.
    c. Fair return on capital invested.
    d. The minimum requirements to cover preferred stock dividends.
    e. The amount of net profit required to safeguard the financial condition of the store.
    f. Where gross income and expenses permit, the allowance for net profit can always be increased after the expense program has been roughed out.[3]

   One other factor to consider is how much of the store net profit to expect from operating profit and how much from other income. For example, under item 3 above, interest on the investment may be included as an expense and credited back again as other income. This procedure has been fully explained in Chapter 3.
4. Subtract the planned operating profit from the estimated dollar gross margin to find the resultant expense figure, which should represent the maximum outlay that should be authorized in the budget.

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[3] *Budgetary Procedure and Control for Retail Stores.* Controllers' Congress, National Retail Dry Goods Association, June, 1935, page 3.

For example, a store may conservatively estimate sales of $500,000 for the next six months and a gross margin of 30 per cent after allowing for markdowns, shortages, and alteration and workroom charges. A dollar gross margin of $150,000 is then in prospect. There may have been no profit the year before but rather a loss of $5,000. This year a profit of $10,000 may be planned. Even if outside conditions are not materially improved, the store may strive for a profit goal through more economical management.[4] The difference between the $150,000 gross margin and the $10,000 planned profit equals $140,000, the total expense budget for the period.

This philosophy, while practicable in times of recession, might be unduly rigid in periods in which there are great opportunities for sales increases through bold promotional efforts. To force expenses into line with conservatively set sales and gross margin estimates might prevent a store from increasing expenses that have a reasonable chance of increasing sales. The merchant often has to spend money on faith, seeing a dynamic opportunity. Always to force expenses to conform to predetermined sales objectives may prevent maximum growth and maximum profits.

While the merchant, then, should sometimes base his expense budget on an optimistic rather than a highly conservative sales forecast, it still follows that it is always desirable to set an overall figure for total expense rather than to allow the budget to be wholly a built-up one, growing out of detailed estimates of every item of expense. In planning individiual expense items in terms of work that it is desirable to accomplish, it is very easy to run up an aggregate expense well in excess of a profitable limit. Without a control figure based on planned profit, a store management is likely to accept a built-up expense figure as the smallest feasible one, even though it may entail a loss. In the illustration above, a built-up expense figure might total $155,000, which would continue the loss of $5,000 of the year before. Without a predetermined lower budget figure, this would probably be accepted as the guide, whereas it must now be rejected and the detailed estimates pared down until the total is no more than $140,000. While this *forcing* method of expense budgeting might result in the curtailing of an expense essential to continued operation or good-will building, the usual result is that the management and the heads of individual departments find that they *can* operate on less than they would *like* to spend. The result is psychological. If attention is centered on realizing a profit, ways and means can generally be found to keep expenses at a point that will allow it; but if attention is centered simply on the work to be done, many expense outlays that are not essential are likely to be authorized, and profits are squeezed between the upper millstone of a moderate gross margin and the lower millstone of a high expense.

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[4] Sometimes it is necessary to plan a smaller loss than the year before rather than a profit, and during a severe depression a smaller profit or larger loss might be planned; this would indicate that the expense problem is at least temporarily out of control.

Breaking down the total planned expense figure. After the total store expense figure has been set for a year or a six-month period, it may be broken down into major divisions to provide more detailed figures against which to check the aggregates of detailed and departmental expense plans. This breakdown may be made either by natural, functional, or subfunctional divisions. In a smaller store, the natural divisions are most readily set up because there is no elaborate functional organization to which to apportion different groups of expenses. In large stores, the expense budget may be broken down both by natural divisions and by the subfunctional classifications.

The discussion below will be limited to the fourteen natural divisions. As a guide in distribution, there are available (1) the divisional expenses for previous years, (2) outside standards—in the case of department stores those of the Harvard Bureau of Business Research and the Controllers' Congress are the most reliable, (3) planned amount of work to be done, (4) facts in regard to policy changes and plans for simplification and more efficient operation, and (5) other factors that have a particular bearing on each of the natural divisions.

It is desirable to budget separately each major item of expense in each natural division rather than to attempt to set a total for each division based on last year's total and changes in volume. Table XIII shows such a detailed budget in the case of supplies. Paper and twine may change in direct proportion to changes in transactions, but the expense for coal would bear no relation to changes in sales. In making estimates for each of the other natural divisions, similar detailed consideration is necessary although probably none of the other thirteen divisions include as many distinct items as does the supply account.

An important feature of the plan exhibited in Table XIII is that cash requirements are segregated from provisionary requirements. That is, the supplies that will have to be paid for during the period are determined as well as those that do not involve cash outlays at the time. The latter may have already been purchased and be in a supply inventory, or their payment may be deferred until a later period. The expenses for the other thirteen natural divisions should be similarly analyzed so that the treasurer will know how much cash he must provide to pay for expenses during the period in question.

Planning relatively fixed expenses. The relatively fixed natural divisions of expenses are rent (or real estate costs), taxes, interest, insurance, and depreciation. But these items should not be regarded as noncontrollable. Even though they have very little relation to sales volume and accordingly may not increase with rising sales or automatically drop with declining sales, they may frequently be reduced by careful study. Rent has been often lowered by entering into new agreements with landlords. Optimistic plans for expansion may be deferred or toned down. Taxes have sometimes been lowered by concerted efforts of merchants to obtain revaluations of real estate. Interest on merchandise may be reduced by carrying less but better assorted stock; interest growing out of larger accounts receivable may be cut down by tightening up on collections; and interest on fixed plant and equipment, by disposing of unnecessary property. Insurance may be decreased by carrying less stock, by observing a multitude of preventions that lessen risk, and by negotiating collectively with insurance companies. Depreciation may be lowered when a store has been writing off each year more than the actual amount of depreciation and when the cost value on which depreciation rates are based is

TABLE XIII

SUPPLY BUDGET[a]

No.	*Item*	*Amount*
2	Auto parts	$ 250
2	Boiler room	100
1	Carpenters	75
1	Coal	1,100
1	Drawings	700
2	Electric	300
1	Etchings and engravings	175
1	Gas	60
1	Gasoline	180
1	Glass	50
1	Hospital	30
2	Janitor	200
1	Laundry	300
1	Oil and grease	40
2	Packing room	100
1	Painters	60
2	Paper and twine	2,200
1	Pneumatic	40
2	Printing, stationery, and books	1,300
1	Publications and subscriptions	30
1	Sundry	250
1	Tires and tubes	120
1	Tools and fittings	40
1	Uniforms	200
1	Water	100
	Total	8,000
1	Cash requirements	3,650
2	Provisionary requirements	4,350

[a] *Budgeting Procedure and Control for Retail Stores,* Controllers' Congress, 1935.

too high in view of shrinkage in property values. Another way to avoid depreciation is to make greater use of existing equipment rather than purchase new, which must also depreciate. For example, the display manager may wish to keep buying new fixtures, whereas with a little ingenuity and adjustment he could make those on hand serve the purpose quite as well.

After every opportunity for reducing these relatively fixed expenses has been considered, they should be planned in dollars and the balance of the expense allotment apportioned to the nine remaining expense classes. For example, these five classes may account for one fifth of the total expense figure of $140,000, suggested on page 494, leaving $112,000 to distribute. The relatively fixed expenses should be considered first because there is no immediate way to reduce them. If left to the last, the total of the natural divisions of expense are likely to exceed the predetermined total for all expenses.

Planning controllable expenses. In planning the remaining divisions of expense, it is believed wise to plan the least controllable first.

The allowance for *professional services* involves an analysis of changes in rates for services and the need of each. It may be cheaper for the store to have its own employees perform certain functions rather than to hire outside experts.[5]

In the case of *repairs,* past policy must be reviewed. If repairs have been avoided because of bad times, a decided increase may be desirable to restore plant and equipment to good order. Again, it may be cheaper to add to pay roll by having repairs done by the store organization rather than by outside companies.

Communication expense includes telephone and telegraph, postage on direct mail, and postage on charge accounts. One store had the phone company analyze its charges in detail and obtained a reduction by reducing trunk lines and dial stations.

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[5] For an account of what expenses are included in each of these natural divisions, see Chapter 25.

Policy in regard to direct mail and telegrams must also be considered in budgeting this figure.

Traveling expenses are of two types: buyers' trips to market and trips of executives to conventions. Changes in buying arrangements with resident buyers that would require fewer or more trips should be carefully weighed and the advantages to be gained from trips should be considered.

The larger items included under *unclassified expenses* are bad debts, donations, charity, and membership dues. Store policy in regard to extending credit, making contributions, assisting needy employees, and supporting outside organizations will largely determine whether the allowance for unclassified expense should be increased or decreased, as compared with last year.

Services purchased include heat, light and power, cleaning service, and outside delivery service. The budgeted figure should reflect consideration of plans to save electricity by using bulbs of lower wattage and avoiding waste, to eliminate the use of electricity for some purposes at peak hours so as to reduce the electric power company's charge based on maximum load, and to manufacture one's own power rather than buy the service. Cleaning may be more economically done by store employees than by an outside company. In the case of delivery, an outside company may be more economical, or it may be possible to reduce the number of routes or the number of drivers' helpers.

The *supply budget* is an outgrowth not only of past expenditures and increases or decreases in transactions but also of plans for standardization, simplification, and better utilization of supplies. Shopping around for every supply item is the surest way to uncover opportunities to save, for quotations vary greatly. If the store can unite with others in buying packing material, gasoline, automobile tires, and so forth, it can realize greater savings than it can independently. A campaign to reduce waste may have a marked effect. Frequently, a cheaper grade of supplies is found to be just as satisfactory for the purpose.

Shortening its salescheck form only one-half inch saved one store $3,500 in supplies in one year. Use of salvage materials for packing rather than new materials saved an even larger sum.

The *advertising budget* grows out of a decision as to whether advertising should be used to a greater extent than before to realize the planned volume of business. Adequate coverage of the trading area must be considered. Other special factors are changes in media rates, plans to make more effective use of space through improvements in layout, copy and art work, and planned campaigns to put certain ideas about the store across to the public. This subject is treated more fully later in this chapter.

Pay roll is the largest of the natural expense divisions, accounting typically for about one half the total expense. Special factors to be considered here are changes in the number of sales transactions planned as distinct from the dollar sales. (A sales increase in dollars growing out of larger average sales rather than more sales transactions should not require a proportionate increase in pay roll.) Changes in managerial methods designed to yield greater productivity per employee, trends in market wage rates, and store policy in regard to the wage limit in relation to market are additional factors to consider in setting the control figure for pay roll. Many stores have realized marked pay roll savings by consolidating a number of small departments (both selling or nonselling) under one manager, by having divisional merchandise managers supervise a larger number of departments, and by having assistant buyers assume some of the duties of section managers. The budgeting of the selling pay roll is treated in detail later in this chapter.

Budget summarized. As a result of the planning procedure outlined above, the budget for the operation illustrated may be as follows, in round numbers:

Net sales		$500,000
Gross margin 30 per cent		150,000
Planned profit		10,000
Expenses—total		$140,000
Rent	$12,000	

Taxes	5,000	
Interest	8,000	
Insurance	1,000	
Depreciation	2,000	
Total relatively uncontrollable		$ 28,000
Professional services	1,000	
Repairs	2,000	
Communication	700	
Traveling	2,000	
Unclassified	2,000	
Services purchased	1,000	
Supplies	8,000	
Advertising	13,000	
Pay roll	82,300	
Total controllable		$112,000

Planning Detailed Expenses

Planning by expense account and by department. The discussion in the last section has had to do with the setting of planned figures for total expense and for each major class of expense; but the detailed planning should be done in terms of each expense account. These may vary in number from fourteen (the natural divisions) in a very small shop to over two hundred and fifty in a large store. Expenses should be planned for each of these accounts separately by considering every item entering into the account last year and by estimating what changes can be made. Attention in each instance must be given not only to changes in the amount of work to be done or services necessary but also to opportunities to accomplish the same results in cheaper ways. In a large store, the plans for these individual expense accounts should be prepared by the heads of the various departments. For example, receiving department expenses should be planned by the receiving department manager, adjustment expenses by the manager of this department, and selling pay roll by the personnel manager or superintendent, in cooperation with the buyers.

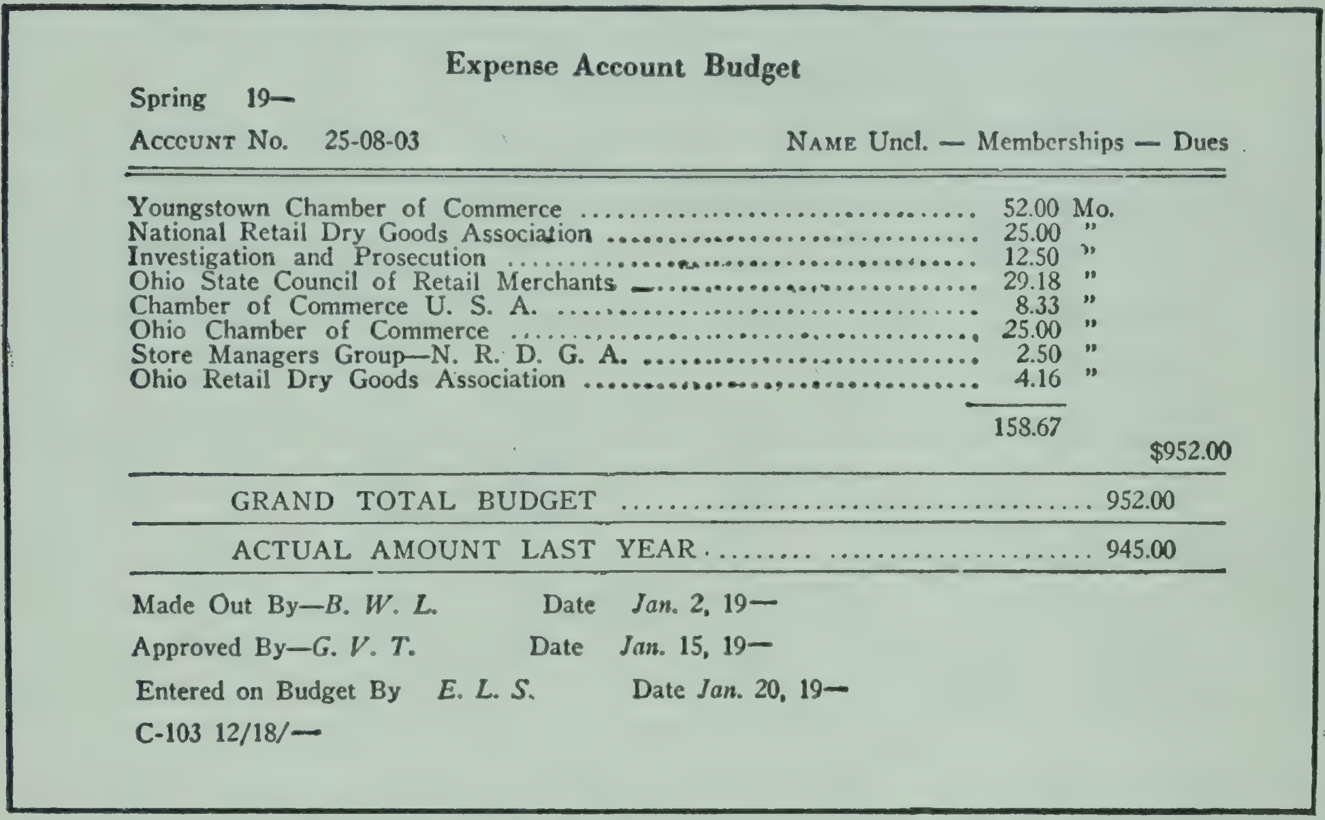
The sum total of these individual account budgets by natural or functional divisions should be checked against the control figures already set to insure the realization of the profit goal.

If the built-up budget exceeds the control figures, a paring process is undergone. When the totals of individual budgets can be fully justified, even though they deviate from control figures, it may be necessary to revise the control figures themselves, rather than the individual budgets for each account. The predetermined totals should not be thought of as unchangeable, but rather as guides to use in the analysis of the reasonableness of budgets for individual accounts in the aggregate.

In budgeting departmental expense that bears a close relationship to some unit of production, a standard unit production cost should be set as a basis for budgeting. For example, the grouping of expenses involving the sales audit are a function of the number of sales transactions handled. But some auditing expenses are relatively fixed and others variable. No matter how low transactions may fall during a month, a supervisor and a certain number of regular clericals will be necessary. In one store, during an average month, 75,000 transactions were handled and the sales audit salaries were $2,250; but $750 of this represented fixed salaries of a supervisor and of the basic staff. An average of ten other people earned $1,500. Since only this part of the pay roll could be adjusted to changes in transactions, $1,500 was divided by 75,000 to give a unit expense per transaction of 2 cents. Transactions for each month may then be estimated in planning the monthly expense budget for the sales audit department. If transactions of 70,000 are planned for some month, the budget will be 70,000 times 2 cents plus $750 or $2,150. Also, the actual transactions every month will be applied to the standard rate to determine whether too much money was spent to perform the function. Suppose that the actual transactions one month were 60,000 and that the actual expense $2,050: 60,000 times 2 cents, plus $750 equals $1,950. This comparison would indicate that the department spend that month $100 more than it should.

This method may be applied to other nonselling departments such as:

	Unit of Production
Accounts receivable	Charge transaction
Accounts payable and receiving	Invoices
Delivery	Number of packages delivered
Mail and telephone orders	Number of orders
Adjustments	Number of adjustments
Wrapping and packing	Number of packages wrapped or packed.



Expense Account Budget

Spring 19—

ACCOUNT No. 25-08-03 NAME Uncl. — Memberships — Dues

Youngstown Chamber of Commerce	52.00 Mo.	
National Retail Dry Goods Association	25.00 "	
Investigation and Prosecution	12.50 "	
Ohio State Council of Retail Merchants	29.18 "	
Chamber of Commerce U. S. A.	8.33 "	
Ohio Chamber of Commerce	25.00 "	
Store Managers Group—N. R. D. G. A.	2.50 "	
Ohio Retail Dry Goods Association	4.16 "	
	158.67	
		$952.00
GRAND TOTAL BUDGET		952.00
ACTUAL AMOUNT LAST YEAR		945.00

Made Out By—*B. W. L.* Date *Jan.* 2, 19—

Approved By—*G. V. T.* Date *Jan.* 15, 19—

Entered on Budget By *E. L. S.* Date *Jan.* 20, 19—

C-103 12/18/—

FIGURE 59. Expense Account Budget.[a]

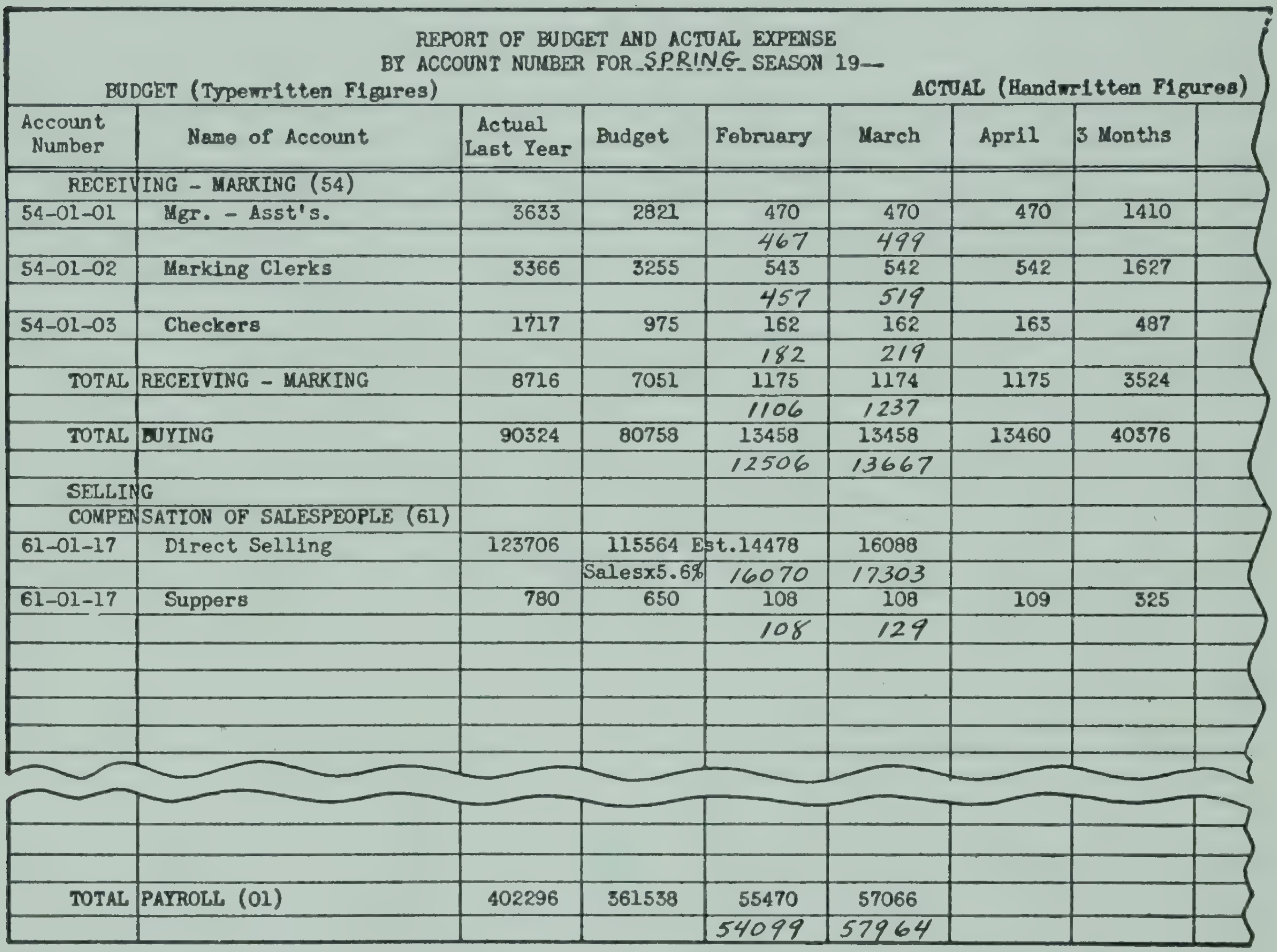
[a] From *Proceedings*, 1931, Controllers' Congress.

Forms. Figure 59 is an example of the form that may be used for the analysis and budgeting of each account for a six-month period. After each has been approved or revised in view of the control figure for each division of expense, the plan should be broken down by months, as in Figure 60; this represents a portion of a report that lists every expense account and is arranged by natural divisions and is subclassified by functional ones.

Budgeting fixed assets. The method outlined above for the control of expenses should be applied also to expenditures for other purposes than expense. Outlays for the following items should be planned and controlled in the manner explained:

Furniture and fixtures.
Delivery equipment.
Building equipment.
Leasehold improvement.
Real estate.

Not only does depreciation on these items get into the expense account, but it is important to avoid shifting an undue portion of store capital into fixed assets.



REPORT OF BUDGET AND ACTUAL EXPENSE
BY ACCOUNT NUMBER FOR SPRING SEASON 19—
BUDGET (Typewritten Figures) ACTUAL (Handwritten Figures)

Account Number	Name of Account	Actual Last Year	Budget	February	March	April	3 Months
RECEIVING - MARKING (54)							
54-01-01	Mgr. - Asst's.	3633	2821	470	470	470	1410
				467	499		
54-01-02	Marking Clerks	3366	3255	543	542	542	1627
				457	519		
54-01-03	Checkers	1717	975	162	162	163	487
				182	219		
TOTAL	RECEIVING - MARKING	8716	7051	1175	1174	1175	3524
				1106	1237		
TOTAL	BUYING	90324	80758	13458	13458	13460	40376
				12506	13667		
SELLING							
COMPENSATION OF SALESPEOPLE (61)							
61-01-17	Direct Selling	123706	115564	Est.14478	16088		
			Salesx5.6%	16070	17303		
61-01-17	Suppers	780	650	108	108	109	325
				108	129		
TOTAL	PAYROLL (01)	402296	361538	55470	57066		
				54099	57964		

FIGURE 60. Monthly Expense Budget by Accounts.[a]

[a] From *Proceedings*, 1931, Controllers' Congress.

Planning Advertising Expense

The two items of expense in greatest need of planning and control in most stores are newspaper advertising and selling pay roll. These two items together account for nearly a third of total expense and have to be adjusted to continual variations in sales volume. As already indicated, they are the most variable of a store's expenses.

Setting the advertising percentage. In planning how much money to allow for newspaper advertising during a year or six-month season, it is common to set a percentage of sales based upon past experience and upon comparison with other stores. But it is a better plan to consider the advertising job that needs to be done and the profits that should result from the expenditure and to allow the percentage to be a resultant figure.

The main consideration is the pulling power of additional advertising. Additional increments of advertising expense are profitable up to the point at which the gross margin on the additional sales just exceeds the sum of the additional advertising and additional variable expense. See Table XIV, where a $17,000 increase in advertising increases sales $130,000 to $630,000 and yields a higher profit than smaller or larger expenditures for advertising. This table is based on the principle that additional increments in advertising result in diminishing sales returns.

In practice, the difficulty with such analysis is that estimates of sales volume with varying advertising outlays may prove erroneous. Factors to consider in estimating the probable results of additional advertising increments are:

1. The proportion of actual customers to the number of people that enter the store. If this ratio is higher than that most stores enjoy, it tends to indicate that not enough customers are being attracted and that more advertising should be done. If the ratio is low, it tends to indicate that external advertising is doing its part but that the merchandise or point-of-sale selling methods are at fault.

2. Store policy. In general, the store that offers few services, that is highly promotional, and that depends upon the bargain appeal, will have to spend more relatively for advertising than the nonpromotional store.

3. Store location. A store in a central location can usually show greater increments in sales from each additional dollar outlay for advertising than can a store in a poor location. In general, a good location requires a large advertising expendi-

ture so that the location may be utilized to the fullest degree and the fixed charges, such as rent, reduced in ratio to sales. The term "good" and "central" location, as used here, does not mean that the store must be in a central shopping district, but it must be readily accessible to customers scattered over a wide trading area.

TABLE XIV

ESTIMATED EFFECT ON DOLLAR SALES AND EXPENSES OF INCREASES IN ADVERTISING EXPENSE

Estimated sales with publicity expense indicated	*Gross margin at 35 per cent*	*Advertising expense*	*Per cent of sales*	*Variable expense not including publicity*[a]	*Fixed expense*	*Total expenses*	*Net profit*
500,000	175,000	10,000	2.0	65,000	100,000	175,000	0,000
550,000	192,500	15,000	2.7	71,500	100,000	186,500	6,000
590,000	206,500	20,000	3.4	76,700	100,000	196,700	9,800
620,000	217,000	25,000	4.0	80,600	100,000	205,600	11,400
630,000	220,500	27,000	4.3	81,900	100,000	208,900	11,600
640,000	224,000	30,000	4.7	83,200	100,000	213,200	10,800
650,000	227,500	35,000	5.4	84,500	100,000	219,500	8,000
650,000	227,500	40,000	6.1	84,500	100,000	227,500	3,000

[a] Increased in proportion to sales.

4. Age of the store. A new, unknown store will have to spend for advertising a larger proportion of its sales than an established one.

5. Size of the store and of trading area. A small store need spend very little for advertising, since convenience of neighborhood location and window display provides the publicity needed. As a store grows and wishes to attract from a wider radius, it has to increase its advertising relative to sales. But the very large department store may be able to cut its relative outlay since, before it became so large, it may have had to use all the advertising media available to a full extent. For example, one very large store used over 4 million lines of advertising space one year. A competitor with only a third the volume had

to use over 3 million lines. Obviously, the first store enjoyed a much lower percentage of advertising expense.

6. Newspaper rates and circulation. If newspaper lineage rates are low and circulation excellent, advertising outlay may be relatively lower than in communities where rates are high or coverage inadequate.

7. Competition. If a store is fighting to make or maintain for itself an established place in the community, it may have to spend more than current profits may warrant. It may have to regard advertising as an investment in good will for the future.

8. Business conditions. Adverse business conditions often intensify competition and make relatively large outlays for advertising necessary. Even though a $5,000 increase in advertising in bad times may not yield as much increment to the gross-margin figure as it would in good times, the increment may prevent a large loss in sales with no reduction in fixed expenses. Even if a large advertising outlay in bad times resulted in less profits than would a smaller outlay, it may be justified on a long-run basis. There is considerable evidence that business institutions that follow aggressive promotion policies in depression are the first to prosper when the situation improves.

9. Needs by merchandise lines. Advertising outlays cannot be planned simply on an over-all or store-wide basis. Every line of goods carried should be studied to determine what advertising it needs, if any, to assure maximum sales relative to the cost. Plans should be built up by merchandise lines and departments and checked against a tentative store-wide estimate of a desirable advertising outlay.

Planning advertising by months. Once the total advertising appropriation has been set for a year or season along the lines suggested above, it should be broken down to months. The guide here should be the percentage of sales each month to annual or seasonal sales. For example, if 10 per cent of the year's business is done in June, June should be allotted about 10 per cent of the year's appropriation. There are some exceptions to this rule: December is commonly much more important volume-wise than any other month. It may account for 15 per cent of the annual volume but not require 15 per cent of the annual outlay. The store may be able to obtain full advertising coverage by spending in December only 13 per cent of sales. Again, customers are in a shopping mood in December; they shop in stores in which they have confidence and do not depend on specific promotions to decide when to buy Christmas merchandise. In dull months, such as July and August, it would seem desirable to increase the *relative* amount of advertising done in order to keep the store before the public. Thus, if July accounts for only 5 per cent of the year's sales, it may be wise to spend 6 per cent of the advertising. Accordingly, the advertising in July as a percentage of July sales would be larger than the annual average percentage, and advertising in December as a percentage of December sales would be smaller than the annual average.

A recent unpublished study of advertising practices of department stores in a Midwestern city shows failure to adjust monthly advertising to monthly sales, particularly in the various ready-to-wear lines. These stores had a tendency to spend much more money for advertising in the early spring months than actual sales seemed to warrant. The fall months and the in-between months did not receive adequate advertising attention. Of all indices available for planning, the monthly variations in sales is one of the most constant. Every store can tell within very close limits what percentage of its yearly volume is to be realized in any month. There is little excuse for not keeping advertising in line. The proper plan for monthly distribution would seem to be to increase dollar advertising as sales increase and to decrease dollar advertising as sales decrease, but for the changes in advertising to be less than the changes in sales. Thus, the percentage of advertising outlay to each month's sales should drop slightly in months of large sales and rise slightly in months of small sales.

Distribution of the advertising budget to merchandise lines. The monthly advertising appropriation needs to be broken down by merchandise lines. In a large store, each department may be allowed its quota, which may be further broken down by merchandise classification or brand and by price line.

The distribution to departments is sometimes in proportion to the sales of each. For instance, if the store's newspaper advertising budget for September is 3 per cent of September sales, each department may be assigned 3 per cent of its sales that month. But it is desirable to consider the needs of each department for advertising and not simply the sales expectancy of each.

Placed where it will do most good. It is agreed that the publicity expenditure should be placed where it will do the most good in terms of volume and long-time profit. A furniture department may be a consistently losing department owing to adverse economic conditions. Even though its volume is large, its percentage for publicity may be low. Conversely, the analysis of sales in a sporting goods department may indicate that there are sales possibilities in this department for a large increase in volume if more advertising is done. If a careful analysis shows that certain departments have potential volume and profit possibilities that are as yet unrealized, it will be wise to plan a larger advertising appropriation. This applies particularly to new departments that need promotion to bring them quickly to maturity.

No advertising allotment. There are some departments that need be given no advertising allotment. Advertising dollars should not be spent on those that are small and in a conspicuous place with a great flow of traffic, or on those whose merchandise is fast going out of style. A tobacco department or soda fountain can get along nicely with no publicity.

One store has established ideal season percentages for each department by analyzing the percentages of other stores and arriving at typical figures. Table XV indicates the procedure. The ideal percentage so set is not necessarily the planned percentage, but it becomes one factor in determining the latter figure.

TABLE XV

GROUP COMPARISONS OF ADVERTISING APPROPRIATIONS

Department		*Other Stores*						*Our Store*	
Number	*Name*	*No. 1*	*No. 2*	*No. 3*	*No. 4*	*No. 5*	*No. 6*	*Actual*	*Ideal*
110	Umbrellas ...	0.90	0.68	0.98	1.27	0.72	1.16	1.27	1.00
112	Hosiery	1.39	0.59	0.55	0.58	0.75	0.75	1.46	1.00
115	Gloves	1.00	1.29	1.00	1.03	1.60	1.00	2.45	1.50
118	Women's knit underwear .	1.37	0.98	0.36	0.67	0.62	1.41	0.89	0.80
120	Men's shirts..	1.27	1.93	0.81	2.34	1.73	2.18	1.63	1.80
122	Men's underwear	1.70	1.40	1.80	1.25	1.90	1.20	0.85	1.60
125	House dresses	3.74	2.30	2.80	2.97	1.30	2.78	5.54	3.50

Types of promotion. The store or departmental appropriation may be further broken down into (1) types of promotion, (2) merchandise classifications, and (3) regular price lines. The four major types of promotion are:

1. Regular price line promotions.
2. Special sales promotions—the sale of special merchandise from vendors and offerings of regular stock for promotion.
3. Institutional and prestige promotions—service advertising and fashion advertising that applies to a number of price lines.
4. Clearance promotions—the clearance of regular lines and promotional remainders.

Usually regular price lines receive the bulk of the appropriation, but in promotional stores special sales may dominate, and clearances may result at the end of each season.

Distribution to merchandise classifications may approximate sales anticipated in each but, as in the case of the department, the extent to which each classification needs advertising to achieve its sales potential should receive the greater weight.

In distributing the allotment of a merchandise classification to the regular price lines within it, it is seldom wise to promote each price line in proportion to the sales of each. The relatively large number of price lines carried will make the amount of advertising devoted to each inadequate to tell a compelling story to the public. Ordinarily, only the three major price lines need to be advertised. An excellent plan is to put the chief advertising emphasis on the highest of the three best-selling price lines early in the season, on the middle best-selling price line (the volume price) at the height of the season, and on the lowest of the three late in the season. This plan not only reflects the normal seasonal acceptance of price lines but also assists the store to establish a reputation for fashion authenticity early.

Planning Selling Pay Roll

Budgeting selling personnel. In planning the sales force, two requirements should be satisfied: (1) There should be a sufficient number of salespeople to keep watch over the space, protect the merchandise, and give adequate service to customers; (2) the total salaries and wages salespeople receive, both as regular salary and as extra compensation, should bear a percentage relation to net sales that accords with experience common to stores catering to a similar class of trade.

The first consideration suggests that there is a minimum personnel below which the force may never be reduced, regardless of the season or the time of the day. This number is required in order to have someone stationed within watch of each section of the store or department in order to insure protection against shoplifting. It is required also to insure that there are sufficient salesclerks at each part of the selling floor so as to make it unnecessary for customers to wait during the duller days of the season and the duller hours of the day. This minimum may be set by drawing a chart of the department and marking each strategic point at which a salesperson should be stationed to "cover" the area.

Planning the number of transactions. In determining the number of persons (above the minimum) to have on hand at different times, the guiding factors are the fluctuations in the number of transactions and in the department selling costs.

The planned sales figure is not so satisfactory a basis for planning as is the number of transactions, for a salesperson's sales are limited more by the number of transactions he has to handle than by the average sale.

The number of transactions does not always vary with dollar sales. In some clothing departments, when sales are highest in the fall, the number of transactions is low and the average salescheck high; in summer, when the volume of sales is low, the number of transactions is relatively high. Even when transactions and dollar sales move in the same direction, dollar sales variations may be more extreme than transaction variations. There is good evidence that the large volume in peak months is caused partly by an increase in size of sales and not only by an increase in the number of transactions. If the number of salespeople is planned in relation to sales rather than in relation to transactions, departments may be overmanned in peak months and perhaps undermanned in dull months. Not only are unnecessary pay-roll expenses incurred, but commissions and bonuses designed to act as sales incentives lose their appeal as salespeople find too many competitors in those seasons when their opportunity should be greatest.[6]

It is recognized that large average sales take more time to consummate than small ones. There is a tendency for the number of transactions to be less where the average sale is large. The higher the price, the more exacting are customers in the matter of selection and decision. Again, where a large average check is partly caused by suggestion selling, the number of transactions that can be handled is reduced. In planning the number of salespeople, then, some attention should be given to the average sale as well as to the number of transactions. Furthermore, in some departments the type of goods sold in the fall, regardless of value, requires more service than goods sold at other periods.

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[6] There are some departments in which there is no forecastable change in the size of the average transaction from one month to the next during a season. In these cases, changes in dollar sales are an excellent index of changes in transactions, and the dollar sales figure may be used in planning the sales force.

The first approach to the problem of high selling cost is not in cutting wages or in driving the present number of salespeople to sell more goods. It is rather in adjusting the number of clerks in each department to the expected number of transactions. This may be accomplished by determining the average sales for the corresponding months in the past. Last year's average sale for each month may be divided into planned sales for the corresponding month, making such adjustments in the average as outside business conditions warrant. To illustrate: if the sales plan for October this year is $15,000, and the average sale last October, $2.90, a demand for better quality goods may warrant a planned average of $3.00, and transactions of 5,000. This may be broken down into weekly figures:

First week	1,000
Second week	1,100
Third week	1,200
Fourth week	1,100
Balance 3 days	600
	5,000

The average sale estimated for each month rather than for the season should be used because of seasonal variations already referred to. In a fashion department the average sale is likely to be higher early in the season than it is later. During a special sale the average sale will be influenced strongly by the price or prices of the special offerings.

Another method of forecasting the number of transactions is by plotting on a chart the transactions over a period of years by weeks or months. This makes it possible to forecast transactions during each coming period with a reasonable degree of accuracy. A good plan is to check the number of monthly transactions so determined by dividing the period's dollar sales by the estimated average sale.

Planning salespeople in relation to transactions. The next step in the selling pay-roll budget is to determine the number of salespeople necessary to handle the number of transactions planned for each weekly period. As already pointed out, this may be done by dividing the transactions by the average number that each clerk can handle per hour or per week, but this average varies as the seasons progress. During dull seasons, the number of transactions per clerk is relatively low because of the necessity to "police" the department and carry over good people; during months of normal activity the average productivity rises—the regular force can handle most of the business; but during peak periods, such as at Christmas, the average may drop again because so many contingents must be used and because the crowding both in front and behind the counter actually slows up the handling of each transaction. Because of these variations, one buyer found it best to plan as follows:

Planned transactions for a peak week	1,100
Best salesclerk can handle	300
Two other regulars, 200 transactions each	400
Trained extra, used before	150
Assistant buyer who will sell part time	100
Two contingents, 75 transactions each	150

He applies the same reasoning in planning for peak days within a week.

Mathematical expression of ratio of salespeople to transactions. The above discussion suggests that it is wrong to increase the salesforce in direct proportion to the increase in transactions; for every increase of 1,000 transactions, there is not a fixed number of additional salespeople needed. The number required at different transaction intervals above what the regular force can handle does, however, approximate numbers falling along a smooth curve—that is, for every increment in transactions above a certain point there tends to be a regular increase in the number of salespeople required. In departments where there are a large number of small transactions and in which many contingents have to be used at peak periods in a small congested space, the productivity per clerk drops at the peak, that is, the curve of salespeople takes the form of a parabola, as Figure 61 indicates. The points along the horizontal axis represent the number of transactions per week and those along the vertical axis the number of clerk-hours per week (an index of full-time salespeople). Fifty-two points are

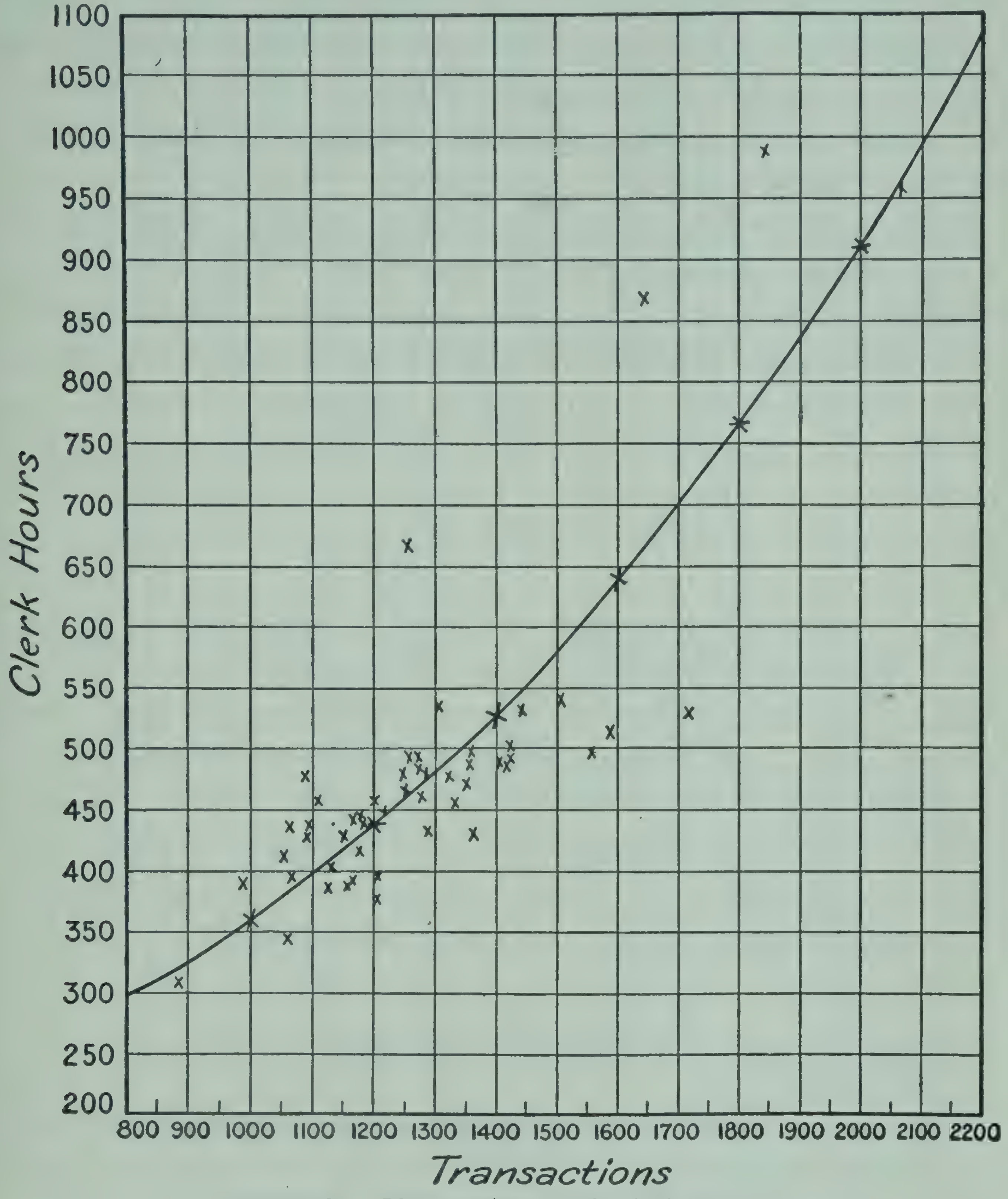

FIGURE 61. Transactions and Clerk Hours.

plotted, covering one year of operation. The smooth curve fitted mathematically[7] summarizes the actual ratio of transactions to clerk-hours. It is interesting to note that although 360 clerk-hours are adequate for 1,000 weekly transactions, it requires 580 clerk-hours for 1,500 transactions, and 910 clerk-hours for 2,000 transactions. If each full-time clerk works 40 hours a week, the ratios may be stated as follows: 9 full-time clerks can handle 1,000 transactions, whereas 15 are necessary for 1,500 transactions, and 23 for 2,000.

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[7] The parabolic curve that fits this data is expressed by the equation $y = a + bx + cx.^2$ In the case of the situation depicted on the chart, $a = 24.6$, $b = -\frac{1}{9}$, and $c = \frac{1}{450}$.

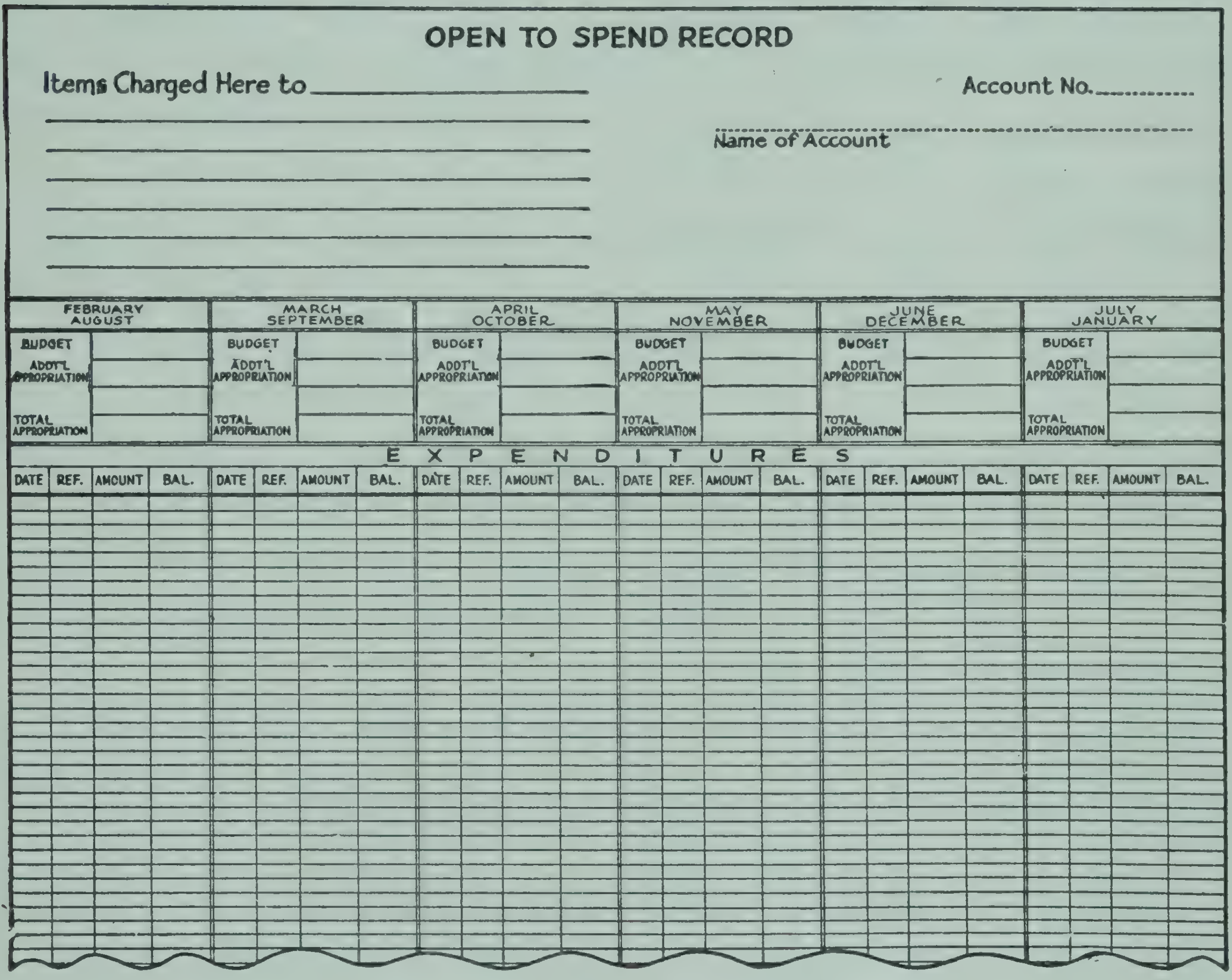
It must not be assumed, however, that the ratio of clerk-hours to transactions should always approach the shape of the curve depicted in the chart. In some departments, where there is little congestion or untrained help, even in busy periods, the ratio of salespeople to transactions may remain constant or even decrease somewhat; that is, the productivity per individual may increase in busy periods. The situation in the department depicted in the chart is probably true only of small-item, congested departments using many contingents in busy seasons.

As a method of procedure, however, a good plan is to plot actual transactions in relation to clerk-hours as done in the chart and to draw—by inspection—a smooth curve that seems best to fit the data. Points along this curve can, then, be used in planning, provided adjustments are made for other factors, such as the average sale and the need to bring in additional help in advance of busy periods. In case part-time help is used, adjustments may be made as indicated on page 514.

Control of Expenses

After each expense account and each department's expense have been budgeted by months, totals checked against control figures set up, adjustments made, and the plans formally authorized, a system must be established to insure that the plans are followed and revised when necessary.

Requisition system. For control purposes, the expense accounts may be classified under two heads: (1) those requiring requisitions for each expenditure, and (2) those that do not. Under the first head are included such items as supplies, repairs, advertising, and part of the pay roll.[8] The various selling and nonselling department heads wishing to expend money for any of these purposes make out requisitions that are checked against the month's allowance by an official in the controller's office called an "expense man" or "expense controller." In a smaller store, either the office manager, superintendent, or owner may check these requisitions. A separate card may be kept for each expense account on which the amount of each requisition is subtracted from the month's allowance and the balance is shown. This balance is known as the "open-to-spend" (see Figure 62). If the budgeted figure is approached early in the month or if a requisition will lead to an excess of expenditures over the budget, the department head in question is notified. If it is important that a requisition in excess of the



OPEN TO SPEND RECORD

Items Charged Here to ____________________

Account No. __________

Name of Account

FEBRUARY AUGUST		MARCH SEPTEMBER		APRIL OCTOBER		MAY NOVEMBER		JUNE DECEMBER		JULY JANUARY	
BUDGET		BUDGET		BUDGET		BUDGET		BUDGET		BUDGET	
ADDT'L APPROPRIATION		ADDT'L APPROPRIATION		ADDT'L APPROPRIATION		ADDT'L APPROPRIATION		ADDT'L APPROPRIATION		ADDT'L APPROPRIATION	
TOTAL APPROPRIATION		TOTAL APPROPRIATION		TOTAL APPROPRIATION		TOTAL APPROPRIATION		TOTAL APPROPRIATION		TOTAL APPROPRIATION	

EXPENDITURES

DATE	REF.	AMOUNT	BAL.	DATE	REF.	AMOUNT	BAL.	DATE	REF.	AMOUNT	BAL.	DATE	REF.	AMOUNT	BAL.	DATE	REF.	AMOUNT	BAL.	DATE	REF.	AMOUNT	BAL.

FIGURE 62. Open-to-Spend Record.

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[8] Pay roll, in the case of many selling and nonselling jobs, is planned weekly in terms of number of persons and controlled by checking requisitions for help against plans.

budget be allowed, the general manager or an expense committee authorizes an increase in the budget.

Controlling recurring expenses. Expenses that do not require requisitions are *recurring* items such as telephone, electricity, coal, rent, and professional services. Here the expenditures made each month should be entered on control cards for comparison with the budgeted figures. If any planned figure is exceeded, an investigation should be made. For example, the electricity bill may exceed the budget and it may develop that there has been wasteful use or unnecessary use at peak periods.

In the case of both recurring and nonrecurring expenses, no invoice should be passed for payment unless it has been checked against an authorized requisition or order or a recurring expense record.

Sales and expense relationships. It is clear that the essence of successful merchandising is to provide a gross margin in excess of total expense. To maintain a healthy balance between margin and expense, there are three major possibilities: (1) to increase sales—with many expenses fixed or semifixed, this will normally increase the spread between gross margin and expense; (2) to increase the gross margin percentage by means of a higher initial markup or by cutting markdowns; and (3) to cut the expense figure itself.

Professional accountants tend to place the emphasis on cutting expenses but the merchant himself usually looks to sales increases to cover his expenses and yield a profit. Unless there has been a careless mushrooming of expense, he realizes that expenses merely reflect necessary services that he must provide to attract a clientele. He pays for these services by selling a maximum amount of merchandise, and is always on the lookout for "runners" and "hot" items. Sometimes, in spite of these efforts, expenses remain too high and they must be slashed; but the successful merchant never loses sight of the fact that "to sell goods that won't come back to customers who will" is the sine qua non of merchandising success. Expenses tend to take care of themselves if the merchant will perform his basic service to the community.

REVIEW QUESTIONS

1. What is the merchant's attitude toward expense?
2. What is the normal relationship between the sales trend and the expense percentage trend?
3. What are four steps in setting a control figure for expenses?
4. What factors should be considered in planning net profit? Why should this figure be planned before the expense figure?
5. What are the limitations of the planning technique suggested?
6. What guides are available for distributing the expense control figure to natural divisions of expense?
7. Distinguish between cash and provisionary requirements.
8. Which natural divisions of expense are relatively fixed? In what degree may each be controlled?
9. What natural divisions of expense are classified as controllable? Suggest ways to keep each of these as low as possible consistent with essential service.
10. Distinguish between departmental expense planning and the setting of control figures.
11. Give examples of operations for which a standard unit of production may be set. What is the unit of production in each case?
12. What two forms are desirable in connection with expense planning?
13. What asset items should be budgeted in the same way as expenses?
14. Explain how the law of diminishing returns determines the most profitable amount to spend for advertising.
15. What nine factors should be considered in estimating the probable results from additional advertising? In connection with each factor, indicate the condition calling for a relatively large expenditure for advertising.
16. How may the year's (or season's) advertising appropriation be allotted to months?
17. What should be the basis for allotting advertising to merchandise lines? Do all lines require advertising?
18. To what four types of promotional efforts should the departmental advertising allowance be allotted?

19. How should advertising be distributed to the various merchandise classifications and to the various regular price lines in each?

20. What two requirements must be satisfied in planning the selling payroll budget?

21. Why should the planning be done first in terms of transactions and then in terms of number of salespeople, rather than in terms of dollars?

22. Why is the number of transactions not always a good guide as to number of salespeople needed?

23. How may graphs be used to plan the ideal size of the salesforce?

24. *a.* What expenses should be controlled by means of requisitions?
    b. What expenses do not require requisitions?

25. What is meant by the open-to-spend?

26. What are the three ways to maintain a healthy balance between margin and expense? Which do most merchants emphasize?

APPENDICES

These four appendices contain matter largely of a technical nature that may be omitted from courses in merchandising. Nevertheless, the subject matter of Appendix A, Special Phases of Profit Computation, ties up very closely with Chapter 3 on How to Figure Profits. Likewise, Appendix B on Special Phases of the Retail Method of Inventory elaborates on technical problems not covered in the two earlier chapters devoted to the retail method. Appendix C presents the LIFO Method of Inventory Valuation, which, to date, is only an accountant's, not a merchandiser's, tool. It is conceivable, however, that the time may come when internal and departmental reports will be based upon it. The last, Appendix D, discusses the ways and means of prorating indirect expenses to selling departments. The bases have been suggested in Chapter 25, but this appendix explains how to apply them.

APPENDIX A

Special Phases of Profit Computation

There are a number of phases in the profit-and-loss statement of a store to which the advanced student should give more consideration than was allotted in Chapter 3. These are:

1. The classification of sales for accounting purposes.
2. Cost department accounting.
    a. Cost inventory departments.
    b. Subsidiary workrooms.
    c. Manufacturing workrooms.
3. Leased department accounting.
4. Determination of cash discounts earned.
5. Changes in the arrangement of the store operating statement.

Classification of Sales

The types of sales transactions may be classified (1) according to method of payment and (2) according to the nature of the department making the sale.

Types of sales. The first classification is as follows:

Cash sales.
Charge sales.
C. O. D. sales.
Will-call sales.
Instalment sales.

Cash and Charge Sales. In the case of cash sales, cash is debited and sales credited as the saleschecks are accumulated each day. In the case of charge sales, accounts receivable are debited and sales credited. Payments on charge accounts, then, have no effect on the sales figure but are rather credited to accounts receivable.

C. O. D. Sales. There is difference of opinion as to when to regard C. O. D.'s and transactions for future delivery as official sales. The usual practice is to record a C. O. D. as a sale at the time the customer places an order, but some do not regard it as such until delivery has been made and payment received. Strict accounting theory favors the latter alternative, but many stores find the former expedient for the following reasons:

1. It is convenient for auditing purposes. It permits the sales audit to proceed to completion as soon as saleschecks are received by the control division instead of waiting until payments are received. At inventory time, it saves the necessity of taking outstanding C. O. D. merchandise into stock.

2. The amount of distortion caused by this practice is too slight to be important. Since most C. O. D.'s are closed out the day after the sale is made, outstanding C. O. D.'s may total no more than the equivalent of two or three days' C. O. D. sales.

3. It presents, in some respects, a truer picture: (a) It credits sales to the period in which the expense in connection with the making of the sales was incurred; that is, sales made by a salesclerk on Monday are credited to Monday; (b) by crediting the sales, stock records are adjusted as soon as merchandise is taken out of stock for the customer; (c) C. O. D. returns show up on the ledger, whereas the more strictly correct practice would keep them buried. With the liberal return-privilege policy in most stores, under which paid and charge purchases are as easily returnable as C. O. D.'s, the theoretical difference between C. O. D.'s and other sales is largely nullified, and the returns on both types of transactions are better shown parallel to each other.

The accounting entries involve the debiting of C. O. D. accounts receivable and the crediting of sales. When cash is collected, the debit is to cash and the credit to C. O. D. accounts receivable. Returns are debited to a C. O. D. returns account and credited to C. O. D. accounts receivable.

Will-call Sales. Will-call or layaway sales are generally treated like C. O. D. sales. If the common practice is followed, C. O. D.'s are treated as sales as soon as the customer's order is recorded and will-calls are handled in the same way. If a deposit is made by the customer, the entire amount of the sale may be credited as a C. O. D. sale, the amount of the deposit charged to cash, and the balance due to a C. O. D. accounts receivable account. Further periodic payments will then have no effect on sales but will reduce the C. O. D. accounts receivable.[1] This method provides excellent control, in that the balance in the C. O. D. accounts receivable account may be checked against the sum of the amounts still owed by customers as indicated on tickets attached to the goods.

In a few stores, however, especially where C. O. D.'s are not regarded as sales until the money is received, it is the practice to handle will-calls with deposit by means of two saleschecks—one a cash check for the amount of the deposit and the other a C. O. D. for the balance outstanding. Only the cash check enters into sales. As additional deposits are received, additional cash checks are made out. The goods are thus sold piecemeal. The difficulty here is that the value of the inventory on hand at any time includes that part of the value of held merchandise that has not been paid for. To avoid error, it is desirable to debit sales and credit a customer's deposit account at inventory time for the portion of held merchandise that *has* been paid for. Then the entire value of the held goods may be included in the inventory.

A third possibility is to regard no part of the transaction as a sale until final payment has been made and the goods delivered. Under this plan, found in a considerable number of stores, deposits are charged to cash and credited to a liability account called *customers' deposits.* When payments have been completed, a cash salescheck is made out for the entire amount. Sales are then credited and the customers' deposit account charged. Some stores call this an *advance payment* transaction, which is not a sale until payment is completed, as distinct from a will-call, which is a sale at once for the entire amount.

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[1] Some stores limit this handling to special sales, such as the August fur sale, and treat other deposit transactions in one of the other two ways discussed. Deposits on special sales are handled as above so that business obtained from a special promotion can be compared with its cost.

Instalment Sales. Instalment sales are handled in different ways, also. The most simple plan is to regard the entire amount as a sale at the time the contract is entered into and the goods delivered, but any carrying charge added to the price of the goods should be treated as "interest earned" (other income) and not as a part of the gross sales. For example, a customer may arrange to pay for $150 worth of furniture over a six-month period, paying down $30 plus a $3.60 carrying charge to be followed by $20 a month for six months. The $150 should be credited to sales, with the debit to instalment accounts receivable. The $3.60 should be charged to cash and credited to "other income" of the store as a whole.

There is a question whether the profits made on unpaid balances of instalment sales should be regarded as profit of the period in which the sale was made. Some stores defer the profit to the next period, and others realize it during the current period but set up certain reserves to take care of depreciation, bad debts, lost profit on returns, and collection expense. Such profit adjustments would ordinarily affect only the figures of the store as a whole and not those of the selling departments. Where profits are deferred to the next period, the amount is determined on a basis of the average gross margin on instalment sales applied against the amount outstanding at the end of the year. For example, $100,000 of instalment accounts may be outstanding at the end of the year, and the gross margin on instalment sales may average 35 per cent. The gross margin that is not yet earned, then, is $35,000. This may be subtracted from (debited to) the gross-margin figure for the whole store for the year and credited to a profit reserve account. This amount will be added back into the gross margin for the following year. Thus when the amount of instalment accounts outstanding at the beginning and end of the year (and the gross-margin rate) are the same, this adjustment has no effect on profits; but when there are larger outstandings at the end of the year than at the beginning, the gross margin and profit are reduced; when the outstandings at the end of the year are less, the profits are increased.

Approval Sales. There are two practices in regard to sending goods to customers on approval for inspection. One is to make a "memorandum" charge, not including the transaction in the sale figure until the customer indicates what she is going to keep. At this time, a regular cash or charge salescheck is made out. When the customer fails to return the goods in a specified period, often three days, or fails to notify the store, she may be charged for the goods at the expiration of this time limit and sales be credited. This method of handling approvals is particularly common in connection with home furnishings departments.

Deferring Profit on Instalment Sales

A merchant's sales for one year are $1,000,000 of which $700,000 is cash and open account and $300,000 instalment. His gross margin on all sales is 33 per cent or $330,000. Of the $300,000 instalment sales, only $250,000 is collected during the year and $50,000 is still outstanding. Last year, a reserve of $15,000 was set up for unrealized instalment sales. Accordingly, this year's gross margin is adjusted as follows:

Gross margin on all sales	$330,000
New reserve (33% of $50,000)	—16,500
Old reserve	15,000
Adjusted gross margin	$328,500

The more popular practice today is to refuse to recognize approvals as a distinct type of sale. Ordinarily, goods are sent out on approval only to those who have charge accounts, and the goods are charged to them at once. Any goods returned are credited to the customer's account and charged as "charge sale returns." This practice increases both the gross sales and the return figure but tends somewhat to discourage approvals and avoids having out of the store goods that are not recognized as sold.

Special-order Sales. In a few stores a cash, charge, or C. O. D. salescheck is made out whenever a customer places an order for merchandise that must be obtained from a vendor. But the more common practice is to keep a memorandum only and make out the salescheck after the goods have been received by the store and when they are ready for delivery to the customer. If the vendor is delivering the goods direct to the customer, however, the sale would take place when the order is given. If sales are recorded before the goods are charged into stock, there is great danger of overage in the physical inventory, for the books will show less stock than actually on hand.

Transactions Excluded from Sales. The gross-sale figure positively does not include the return of goods to vendors or the transfer of merchandise out of one selling department into another selling or nonselling department. Such transfers take place at cost or market and are not sources of income. Nor does the sales figure include sales taxes directly collected from customers and not included in the purchase price. Rather, a separate account should be kept of the money so collected; this account will be charged when the money is turned over to the authorities at required intervals. When a tax must be paid on all sales and when the collections from customers are somewhat less than the amount of the tax, the difference should be included in the operating expenses. Other receipts excluded from sales, and previously noted, are interest paid by customers, alteration receipts, and the incidental sale of supplies.

Types of departments making sales. In the case of a department store, sales are accumulated separately for each department, and a distinction must be made among the following types:

1. Owned departments.
    a. Retail departments.
    b. Cost inventory departments.

2. Leased departments.
    a. Retail departments.
    b. Cost inventory departments.

A *retail department* is a selling department whose merchandise has both a unit cost and a unit retail value and one in which labor is not an element in computing cost of goods sold. Examples are hosiery, dresses, men's furnishings, and most of the other selling departments of a store.

A *cost inventory department* (or workroom) is a selling department that offers, directly to the customer, service or merchandise produced or assembled by the department. It cannot carry stock at retail value, for it sells a combination of merchandise and service. Examples of departments that many stores operate on this basis are customers' restaurant, beauty parlor, made-to-order tailoring department, soda fountain, interior decorating department, shoe repairing, made-to-measure awning and drapery department, cabinetmaking shop, picture framing, carpet laying, and fur storage. All these departments may sell directly to the customer, occupy their own space, attempt to sell their goods and services at a profit, and pay their own expenses.

A *subsidiary department* (or workroom) is an adjunct to a regular retail department to alter or finish goods to customer specifications or for stock. It is maintained primarily to assist in completing the sale of merchandise carried in regular selling departments. Examples are the men's and women's alteration departments and furniture finishing room. These are not independent selling units attempting to operate at a profit. Their costs are absorbed by the regular selling departments they service. Any income collected from customers for the service performed should be excluded from sales of the parent departments and applied against the cost of operating the subsidiary department.

A store may also have *manufacturing departments* (or workrooms) that produce goods to be sold in other departments. Examples are the millinery workroom and drug and toilet goods laboratory. The value of the output of these departments does not enter into the sales figure when the goods are "sold" to selling departments—rather the total cost of the goods produced is computed on a cost accounting basis and this cost is charged as a *purchase* to the selling department handling the goods. The manufacturing department thus makes neither a profit nor a loss. It is true that a store could sell goods it manufactures to its selling departments at a profit, but the usual practice is to transfer the cost of finished goods into purchases and to look for profits only to the departments dealing with customers.

A *leased department* is either a retail or a cost inventory department that has been rented to an outside management. The lessee or outside manager provides the merchandise and generally pays departmental salaries and expenses for buying, advertising, insurance, stockroom, and communication. The lessor, the store, generally pays for and provides floor space, maintenance, administration and office records, window display, charge office service, and frequently packing and delivery. In return, the store receives a percentage of the sales of the department, averaging 15 per cent.

Workroom Accounting[2]

If a store has some of the cost inventory, subsidiary, and manufacturing departments explained above, the computation of profits becomes more elaborate than that presented in Chapter 3 for retail departments. First, the cost and manufacturing departments have *material* and *work-in-process* inventories rather than, or in addition to, inventories of finished goods. Material inventories are valued at cost, or market valuation if lower, and a portion of inward transportation charges should be added to their value, exactly as in the case of finished goods.

Work-in-process inventory. At inventory time there are also on hand some materials that are in process of manufacture. A certain amount of labor has been expended upon them and some of the overhead expense of the manufacturing department or workroom should be charged to them. The materials involved have been withdrawn from the material inventory but have not yet been included in the inventory of finished merchandise on hand. For example, $1,000 worth of materials may be in process of manufacture. Direct labor which cost the store $500 may have been expended upon these materials, and this labor may represent 10 per cent of the entire labor during the period just ended. If the entire overhead expense (including indirect labor) of the manufacturing department for the period is $1,000, 10 per cent of this, or $100, may be applied to the work in process. The total cost of the work-in-process inventory, then, is computed as follows:

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[2] See the *Workroom Manual* of the National Retail Dry Goods Association for a detailed account of this subject, which is summarized here.

Materials in process	$1,000
Labor in process	500
Overhead in process	100
Work in process	$1,600

Work-in-process inventories do not appear in the statements of most departments but do appear in the statements of cost and manufacturing departments. They are also included in the inventory figure of the store as a whole, but may not be shown here as a separate item.

Cost of merchandise sold in cost inventory departments. The cost of merchandise sold in cost inventory departments involves more than the subtraction of closing inventory from total merchandise handled, because of the existence of material and work-in-process inventories.

The following example indicates the calculation:

Sales		$14,000
Opening materials inventory	$ 2,000	
Material purchases—net	4,000	
Total materials handled	6,000	
Closing materials inventory	2,500	
Materials consumed (entering work in process)	3,500	

Opening work-in-process inventory	1,000	
Direct labor	5,000	
Other production costs	2,500	
Total work in process	12,000	
Closing work-in-process inventory	2,000	
Total production costs	10,000	
Less transfers	1,000	
Cost of sales		9,000
Gross margin		5,000
Operating expenses		4,000
Profit		$1,000

"Other production costs," above, include pay roll of supervisors and clericals, repairs to equipment, depreciation, supplies, heat, light, and power, a rent charge for space occupied, and housekeeping charges—provided all these items have to do with production rather than with selling. Selling expenses and store overhead charged to the department are not included in the cost of sales but rather in the operating expenses of the cost inventory department, after its gross margin has been determined. For example, in accounting for the customers' restaurant, kitchen costs enter into cost of sales, whereas all dining-room costs enter into operating expenses. *Transfers,* in the statement above, indicates charges made to other departments or expense accounts. For example, a drapery workroom, in addition to making special order goods for customers, may make up some curtains for the regular drapery department. The cost of these should be determined as closely as possible and credited, as indicated, to production costs of the drapery workroom and charged to purchases of the drapery department.

Subsidiary workroom costs. It has already been pointed out that the costs of altering and finishing merchandise in the store to complete a sale are added to the cost of merchandise sold of the selling departments served, rather than being included in the expenses. But the analysis of this cost has been left for this section.

The accounts included in alteration and workroom costs are labor pay roll, rent, housekeeping charges, heat, light, and power, materials, supplies, repairs, and depreciation to equipment of the service departments, less any income that these departments may receive through charges to customers.[3] For example, the cost of operating a women's alteration room may be $1,260. The charges to customers may amount to $1,000. The difference of $260 is the net alteration cost, which is added to the net cost of merchandise sold of the parent department—the women's apparel department. Where the alteration room serves a number of selling departments, the net loss is divided among them according to the amount of work done for each.

The statement of a subsidiary workroom appears substantially as follows:

Receipts from customers		$1,000
Operating materials inventory	$ 50	
Purchases—net	100	
Total materials handled	150	
Closing materials inventory	60	
Materials consumed	90	
Opening work in process inventory	40	
Direct labor	1,100	
Other production costs	300	
Total work in process	1,530	
Closing work in process inventory	70	
Total production costs	1,460	
Less transfers	200	
Total operating cost		1,260
Net workroom loss		260
Transfers to parent department "Alteration and workroom charges"		260
Net profit or loss		000

Conceivably, alteration workrooms may have income in excess of their costs, but it is the policy of most stores to keep them as services for which customers do not wholly pay directly. Male customers may not be charged extra for alterations, and the charges on women's garments seldom cover the cost. Should there be an excess of income, however, the "alterations and workroom charges" figure would be negative. It would be subtracted from the net cost of merchandise sold, rather than added.

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[3] No portion of store overhead, except fixed plant and equipment charges, is ordinarily charged to this account.

Where an alteration department does some work for a nonselling department in a store rather than for a selling department, the estimated cost of this service should be charged to the nonselling department and credited to the total production costs of the workroom, thus reducing the net workroom loss to be charged against the net cost of merchandise sold of the selling departments. For example, a women's alteration room may make up uniforms to be worn by the clerks in the candy department. The cost of the work may amount to $200, as shown under the caption "less transfers," in the illustration above. This will reduce by that amount the alteration cost figure to be charged the women's apparel departments. The materials used would be transferred out of the piece goods department purchase amount at cost and charged to the materials purchase account of the workroom.

Some stores include alteration charges to customers in sales figures. For example, in one important group of stores, subsidiary workrooms are shown as separate selling departments. Receipts from customers are treated as sales, and the cost of sales is determined essentially as "total operating cost" is determined above. The net workroom profit or loss, $260 in the illustration, is called the gross margin (a negative figure) of the subsidiary workroom. This figure is then distributed to the selling departments using the workroom, in the manner suggested above. The essential difference here is that the treatment of these workrooms as selling departments increases sales and emphasizes the loss by showing it in the form of a negative gross margin. This may lead to greater efforts to operate without loss. But this handling is nevertheless a questionable practice in that the subsidiary cost departments are not independent or profit-making units.

There are two other reasons for excluding alteration receipts from sales. (1) In many states and cities, a sales tax must be paid on merchandise but not on services; it might prove difficult to make the correction if sales were allowed to include these service receipts. (2) To include alteration receipts in sales decreases the gross-margin *percentage* and distorts comparisons. This may be explained by an example.

Recommended Method

Sales—not including alteration receipts			$10,000
Cost of sales before alteration costs		$6,000	
Gross alteration costs	$1,000		
Alteration receipts	800		
Net alteration costs		200	
Cost of sales			6,200
Gross margin			3,800
Gross margin per cent			38%

Alternate Method

Sales—including alteration receipts		10,800
Cost of sales before alteration costs	6,000	
Alteration costs	1,000	
Cost of sales		7,000
Gross margin		$ 3,800
Gross margin per cent		35.2%

Manufacturing department accounting. Since manufacturing departments or workrooms produce goods to be sold primarily in other selling departments, they do not make sales or receive income, except in the form of transfers to the merchandise purchase accounts of the department served.

The operating statement of such a department is as follows:

Transfers to selling departments		$5,000
Opening material inventory	$ 100	
Purchases—net	1,000	
Total materials handled	1,100	

Closing materials inventory	150	
Materials consumed	950	
Opening work-in-process inventory	75	
Direct labor	3,500	
Other production costs	700	
Total work in process	5,225	
Closing work-in-process inventory	100	
Total production costs	5,125	
Less transfers	200	
Net production costs		4,925
Net workroom profit (or loss)		75
Transfers to selling departments		75
Balance		00

This statement differs slightly from that for cost inventory departments in that at the time of transferring finished goods to selling departments it is not practicable to determine the actual cost. Accordingly, an approximation is made, often by applying the complement of an agreed markup percentage to the retail price at which the selling department intends to sell the goods. Thus, the workroom may show a small profit or loss, which must be transferred at the end of the accounting period to the merchandise purchase account of the department served. If a loss, the amount is treated as additional purchases; if a profit, as a reduction in purchases, a transfer out. In the example above, the profit of $75 is transferred out of the selling department's purchase account at cost and charged to the workroom clearing account to balance it.

The caption, "other production costs," represents space charges, heat, light, power, and housekeeping charges applicable to the space used in production, as well as supplies, repairs, and depreciation on equipment. The department is not charged for selling, publicity, administration, and buying expenses, for these are chargeable to the selling department that sells the goods produced.

The caption, "less transfers," represents charges made by the workroom on an approximate cost basis to departments not requiring regular service by the workroom. For example, the millinery workroom may make up some period hats for a show. The cost of these may be transferred out to publicity expense before arriving at net production to be charged to the millinery department.

Leased Department Accounting

There are a number of ways of handling the sales and costs of leased departments. The most important are the following:

1. To treat them as separate selling departments, including their sales in the total store sales figure, and to estimate expenses paid by the lessee in setting up the gross margin and expenses of the department.
2. To exclude leased department income from sales and to treat, as additions to the operating profit, the commission due the store less expenses incurred by the store in connection with the department.
3. To exclude the income from sales and to treat all of the commission as "other income" of the store, charging no expenses to this department. This plan distorts the picture of operations, by charging expenses that should be borne by the leased section to other departments.

The first plan is the recommended one but involves a cumbersome calculation. Since the portion of sales paid the lessee, averaging about 85 per cent, includes not only the cost of the goods but also the lessee's expenses, it has been suggested by the Controllers' Congress of the National Retail Dry Goods Association that known and estimated expenses of the lessee should be taken out of the amount paid the lessee to determine the cost of merchandise sold of the leased department. These elements may then be added into the expense figure for the department. For example, a leased department may have sales of $100,000, the lessee receiving 85 per cent or $85,000. Instead of regarding the latter figure as cost of sales, the following calculation may be made:

Amount due lessee		$ 85,000
Known expenses of lessee		
Selling	$15,000	
Advertising	5,000	
	20,000	
Estimated expenses of lessee		
Buying expenses	4,000	
Other expenses	3,000	
	$7,000	
Total expenses of lessee included in amount due him		27,000
Cost of merchandise sold		58,000
Sales		100,000
Gross margin		42,000
Expenses incurred by lessee	27,000	
Expenses incurred by store	13,000	40,000
Operating profit		$2,000

Should an estimate of the lessee's expenses be impracticable, the cost of sales could be considered the amount actually remitted the lessee—in the example $65,000 ($85,000 less $20,000, the known expenses advanced by the store). In this case, expenses would total $33,000 ($20,000 plus $13,000), and the operating profit would remain unchanged.

Under the second plan suggested the leased department would not be recognized as making sales for the store, but the store would charge expenses to the leased department in the same manner as other departments are charged, and the sum of these expenses deducted from the commission earned by the store. In connection with the illustration above:

Commission earned from leased department	$15,000
Expenses of department incurred by store	13,000
Addition to operating profit of store	$ 2,000

Cash Discounts Earned

In Chapter 3, it has been pointed out that the cost of goods sold ordinarily needs some adjustment before the gross margin can be accurately determined. The two factors involved in this connection are cash discounts and alteration and workroom charges. The cost of goods sold should be reduced by the amount of the cash discounts earned, and increased by the amount of net alteration costs before finding the gross margin. The discount adjustment is explained in the following paragraphs.

Taking credit for cash discounts. There are the following ways in which a store may take credit for the cash discounts it earns:

1. To charge purchases in at *net,* deducting all cash discounts as soon as invoices are received.
2. To treat the cash discounts earned as a deduction in the cost of goods sold of each department. This is virtually the same as adding them to maintained markup. In this case, purchases are charged in at billed cost or at a higher "loaded" cost.
3. To treat the cash discount earned as an addition to the operating profit of each department.
4. To treat the cash discounts earned as "other income" for the store as a whole.

It is the usual practice to charge in purchases at billed cost rather than at the actual amount paid for the goods. The reasons for this have been outlined in Chapter 3. Accordingly, the overstatement in the purchase figure is generally corrected at some other point in the store or departmental operating statement.

The recommendation of the Controllers' Congress of the National Retail Dry Goods Association is to take credit for cash discounts in the cost of merchandise sold; that is, the gross cost of merchandise sold, obtained on a basis of purchases and inventories carried at billed cost figures, is reduced by the amount of cash discounts earned. But many stores prefer to take credit lower down in the profit-and-loss statement, after the operating profit has been obtained. The overstated cost of merchandise sold is subtracted from sales to get gross margin; expenses are next subtracted, giving an understated profit figure. The cash discounts are added at this point as an element of "other income," either of each department or of the store as a whole.

For purposes of comparison, it is desirable for all stores to handle their accounts in the same way. The recommended method has the advantage of giving buyers of selling departments full credit for the cash discounts they obtain in the market rather than treating them as a financial earning of the store as a whole, a figure in which department buyers have little interest. The typical departmental operating statement, then, is similar to that on page 44, where cash discounts are subtracted from the cost of goods sold before obtaining the gross margin.

The amount of cash discounts earned. Attention must also be given to the question of the amount of cash discount for which to take credit. There are the following possibilities: (1) to treat the cash discounts available on purchases of the period as cash discounts earned; (2) to treat the cash discounts deducted during the period, as payment is made for goods, as the cash discounts earned; and (3) to compute the figure by determining what portion of the cash discounts available on purchases actually applies against the goods sold and also the amount that applies against the closing inventory.

Some stores follow plan 1 and treat all cash discounts on purchases as earned. The simplicity of this method recommends it. So long as the cash discount rate is steady and so long as opening and closing inventories are about equal, the plan gives very nearly accurate results. But where the closing inventory is larger than the opening inventory, the *discounts taken* on purchases are more than the real *discounts earned;* when the closing inventory is the smaller, the discounts taken are less than the amount for which credit should be taken in the cost of merchandise sold. This fact is explained in connection with the recommended plan 3, presented below.

To treat the cash discounts deducted from payments as the cash discounts earned is even less defensible, for goods are paid for some time after they are received and the amounts deducted from payments during a year are not the same as the amounts available on purchases received during the year.

The rate of discount. The correct way to determine cash discounts earned is first to find the rate of discount. Since purchases are generally charged in to a store or department at manufacturer's billed price and since the cost prices appearing on merchandise in the inventory are also billed costs, reduced where necessary for depreciation, it is evident that the cost of merchandise sold also represents billed cost, not actual cost. The following comparison indicates the situation in a new store or department where cash discounts equal to 3 per cent of purchases are obtained.

	Computation Based on Billed Cost	*Computation Based on Actual Cost* (3% discount)	*Amount of Cash Discount Available on Purchases*
Purchases	$40,000	$38,800	$1,200
Closing inventory	10,000 [a]	9,700 [b]	
Gross cost of merchandise sold	30,000		
Cash discounts earned	900		
Net cost of merchandise sold	$29,100	$29,100	

[a] Billed cost less depreciation. [b] Actual cost less depreciation.

The cost of merchandise sold computed on billed cost is too large by $900 (derived from the *rate* of cash discount), not by $1,200, the amount of cash discounts available. Gross cost should be reduced by 3 per cent, the average rate of discount on purchases, to find the true cost. Cost of merchandise sold is not overstated by the amount of cash discounts that was deducted on purchases ($1,200), but only by the portion of the cash discounts that applies against the cost of the merchandise sold and not against the closing inventory. Three per cent of

$30,000 is $900, the cash discount earned. Were $1,200 to be treated as the earned discount, part of the discount would be subtracted twice: a portion of the $1,200 is included in the $10,000 closing inventory and subtracted from the $40,000 purchases at that point; it is obviously a duplication to subtract the entire $1,200 from the $30,000 gross cost of goods sold—some of it has already been subtracted. There is no fundamental difference where an opening inventory is also involved, except that the rate of cash discount obtained on purchases might not be the same in the former and present accounting periods. For example, the cash discounts applying against an opening inventory may be 3 per cent, but the cash discounts on the new purchases 4 per cent:

	Computation on Billed Cost	*Computation on Actual Cost*	*Discount*
Opening inventory	$10,000	$ 9,700 (3% disc.)	$ 300
Purchases	40,000	38,400 (4% disc.)	1,600
Total	50,000	48,100	1,900
Closing inventory	12,000	11,544 (3.8% disc.)	456
Gross cost of merchandise sold	$38,000		$1,444
Net cost of merchandise sold		$36,556	

In this instance, the total discount on the $50,000 of merchandise handled is $1,900, or 3.8 per cent. If the closing inventory includes a considerable portion of the 3 per cent discount merchandise, this percentage should be applied to the closing inventory, which is a part of the total. The cost of merchandise sold as computed at billed cost, then, would be overstated 3.8 per cent of its amount (3.8 per cent of $38,000 is $1,444). The credit for cash discount to cost of merchandise sold should be $1,444, whereas the discount available on purchases during the current period was $1,600. The former figure is known as "cash discounts earned" as distinct from "cash discounts available."

An analysis of the closing inventory, however, may reveal that practically all the goods were bought during the year and that virtually none of the opening inventory remains. In this case, the rate of cash discount in the closing inventory is 4 per cent, not 3.8 per cent. The cash discount earned, then, is computed as follows:

Discount reserved on opening inventory	$ 300
Discounts available on purchases	1,600
Total discounts on total merchandise handled	1,900
Discount reserved on closing inventory (4 per cent of $12,000)	480
Cash discounts earned	1,420
Net cost of merchandise sold	$36,580

Since the discounts in opening and closing inventories are kept track of in accounts called "cash discount reserves," the derivation of cash discount earned may be expressed as an equation:

Cash discount earned = Cash discount available on purchases + Cash discount reserve on opening inventory − Cash discount reserve on closing inventory.[4]

Discounts from payment rather than purchase records. The above method is adequate where the amount of cash discount available on each bill is recorded on the purchase record and totaled so as to determine directly the total amount available on purchases. But in many stores, the cash discounts are not computed at the time invoices are charged in as purchases and not until payment is made. In these cases, the cash discounts taken are obtained from the "cash book," the record of payments made by check. Since invoices are not paid at the same time that they are charged in as purchases, the cash discounts available on purchases during any period are not the same as the cash discounts actually deducted as payments are made. Adjustments may be made for cash discounts in the opening and closing accounts payable so as to determine accurately the cash discounts on purchases.

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[4] These cash discount reserves are inventory valuation reserves. In drawing up the balance sheet, they will probably be subtracted from the market value of the inventory.

For example, the cash discounts deducted on payments for purchases during the year may be $1,560. At the beginning of the year, the accounts payable at billed cost may have been $2,000. With a cash discount rate of 3 per cent during the previous period, the cash discount in this figure is $60. This amount is included in the $1,560 of discount deducted during the year. At the end of the year, the accounts payable may be $2,500, and the discount in this figure may be $100 (the current rate, 4 per cent). The cash discounts on purchases made during the year, then, may be computed as follows:

Cash discount on payments	$1,560
Cash discount on opening accounts payable	60
Cash discount on this year's purchases already paid for	1,500
Cash discount on closing accounts payable	100
Cash discount available on purchases	$1,600

Once the cash discounts available on purchases are obtained, either from purchase records directly or from payment records as explained above, the *cash discounts reserve* and the *cash discounts earned* may be computed as outlined. Or as an equation, the relation may be stated as follows:

Cash discount earned = Cash discount taken + Reserve for opening inventory + Cash discounts on closing accounts payable − Reserve for closing inventory − Cash discounts on opening accounts payable.

A "cash discount lost" account is recommended by the Controllers' Congress of the National Retail Dry Goods Association so that all cash discounts available during a period, whether realized by the store or not, may be treated as discounts taken and earned. The amount of lost discount becomes a debit against "other income" of the store and (1) a credit to cash discounts taken on payments (if cash discounts are picked up from the cash book), or (2) a credit to cash (if cash discounts are picked up from the purchase journal). There are two advantages to this practice: first the lost discounts are not buried but appear in the general ledger accounts, a witness to the failure to pay all bills on time. Second, the selling departments get credit in their cost of merchandise sold figures for all cash discounts available and are not penalized for the failure of the controllers' division to pay all bills promptly.

Alternative method. Brief mention may be made of one other method to obtain a correct cost of merchandise sold figure. This is to reduce opening and closing inventories by the amount of the cash discount applying against them and to take credit in the cost of merchandise sold figure for the entire amount of cash discounts available. The following figures are based on those appearing on pages 542 and 543.

Opening inventory ($10,000 less 3 per cent)	$ 9,700
Purchases (billed cost)	40,000
	49,700
Closing inventory ($12,000 less 4 per cent)	11,520
Gross cost of merchandise sold	38,180
Cash discounts available	1,600
Net cost of merchandise sold	$36,580

Loading. In some stores, instead of charging in purchases at billed cost, all are "loaded" to a single rate of discount. For example, the store may establish a standard load or rate of discount of 8 per cent, as the following example shows:

Billed cost	$100
Cash discount	3%
Actual cost	$97
Loaded cost	100%
Load	8%
Actual cost as a per cent of loaded cost	92%

$\therefore$ 92 per cent of loaded cost = $97

$$1\% = \$1.0543$$

$$100\% = \$105.43$$

The goods are charged in as a purchase at $105.43. If 8 per cent of this figure, or $8.43, is deducted, the actual cost of $97 is obtained. As an equation, the computation may be expressed as follows:

$$\text{Loaded cost} = \text{Billed cost} \times \frac{1 - \text{Cash discount rate}}{1 - \text{Loaded discount rate}}$$

Where this practice of loading is followed, the difference between the billed cost and the new loaded cost ($100 and $105.43 in the illustration) may be treated as an addition to the cash discounts available on purchases, and cash discounts earned may be computed as follows, where the billed cost purchases are $20,000:

Opening inventory	$ 5,000	$ 400	old reserve (8%)
Purchases-loaded	21,087	600	cash discounts available on purchases (3%)
		1,087	loaded discount (to 8%)
Total mdse. handled	26,087	2,087	cash discounts on total mdse. handled
Closing inventory	6,000	480	new reserve (8%)
Gross cost of merchandise sold	20,087	1,607	cash discounts earned

Another plan is to treat the loading as "other income" for the store and not to credit it back to the selling departments as "cash discounts earned."

In practice, the total cash discount as a percentage of total merchandise handled will probably not be identical with the loading rate, for transportation charges are included in the cost; also, purchases from own manufacturing departments and transfers may not be loaded.

While only a minority of department stores follow the loading practice, the reasons they give for it are as follows: first, to induce buyers to obtain higher cash discounts in the market by setting a loading rate higher than the actual rate and thus penalizing buyers if they fail to increase the actual rate; second, to put inventory and purchase figures of all departments on a comparable basis; and third, to insure the continuation of an adequate markup when vendors reduce their cash discount rates with or without an adjustment in billed cost.

The last point needs elaboration. A manufacturer may have been selling for $6.00, with a discount of 8 per cent, goods which the buyer may have retailed for $10.00. The markup over billed cost is 40 per cent. The true cost is $5.52 and the markup over true cost, 44.8 per cent.

Should the vendor change his discount to 3 per cent, with no change in the billed price of $6.00, there would be a hidden price increase of 30 cents. But the buyer is likely to continue to retail the goods at $10.00 because the billed cost remains the same. To emphasize to the buyer the fact that the price is higher, the store may resort to loading to 8 per cent. The new true cost of $5.82 is divided by 92 to give a loaded cost of $6.33. If the buyer takes a markup of 40 per cent of retail, he will mark the goods now $10.55 rather than $10.00. This is 44.8 per cent on the true cost of $5.82, the same markup percentage formerly realized.

Loading may prove useful even when the vendor reduces his billed price to compensate for the lower discount. In the example, the vendor might wish to reduce his discount to 3 per cent but be willing to realize the former true price of $5.52. He would set his new billed price, then, at $5.69 (5.52 ÷ .97). There is danger that the department buyer may regard this change as a price reduction from $6.00 warranting a reduction in the retail price from the existing $10.00 figure, whereas actually no change in true cost has taken place. By loading to 8 per cent, the true cost of $5.52 is divided by .92, yielding a loaded cost of $6.00, the former billed price. Thus, the buyer is in no danger of being misled in regard to apparent price changes.

This use of loading was particularly common during the NRA when many vendor codes set lower rates of discount than those previously granted. To protect their former markup rates, many stores loaded up to the former discount rate.

This practice is a sorry reflection on the ability of buyers. It assumes that they fail to look beyond the billed price and that they act mechanically. With intelligent buyers, loading should be unnecessary. Rather, when a higher markup on billed cost is necessary, this figure could be planned directly rather than arrived at by the loading device. For example, in the first illustration above it was found that a retail price of \$10.55 was necessary to yield the former true markup rate. With a billed cost of \$6.00, the planned markup could be adjusted from 40 per cent to 43.1 per cent rather than loading the cost to \$6.33 and leaving the planned markup at 40 per cent. Likewise in the second example, with a new billed cost of \$5.69 with no change in true cost, the former retail price of \$10.00 would require the same markup as above, 43.1 per cent.[5]

Change in Arrangement of Store Profit and Loss Statement

Directors of the National Retail Dry Goods Association recommended a change in the standard arrangement of the figures in the operating statement presented in Chapter 3 on page 44, and as long ago as 1935 the new arrangement was authorized by the Securities Exchange Commission for use by stores with stock listed on the Stock Exchange. The change involved is to include in cost of goods sold certain items normally included in expenses. These are buying, occupancy, and publicity costs. The result was to eliminate the gross-margin figure and to substitute for it a much smaller figure called *Merchandise Spread*. Since expenses were correspondingly reduced, profit was not affected.

The following table illustrates the usual computation of gross margin and profit: [6]

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[5] Instead of loading, the following formula may be used to adjust a markup for a change in discount rate:

$$\text{New initial markup} = 1 - \frac{(1 - \text{Old cash discount rate})\ (1 - \text{Old initial markup})}{(1 - \text{New cash discount rate})}$$

For example, with an old cash discount rate of 8 per cent, a former initial markup of 40 per cent, and a new cash discount of 3 per cent, the new initial markup is:

$$1 - \frac{(1 - .08)\ (1 - .40)}{(1 - .03)} =$$

$$1 - \frac{(.92 \times .60)}{.97} = 1 - \frac{.552}{.97} = 1 - 56.9 = 43.1\%$$

[6] *Journal of Retailing,* April, 1934, page 24.

			Per Cent to Sales
Sales	$10,700,000		
Less returns	700,000		
Net sales		$10,000,000	100.0
Retail reductions:			
Markdowns	753,000		7.5
Shortages	101,000		1.0
Discounts	78,000		.8
Original retail of sales	10,932,000		109.3
Merchandise			
Inventory first of period	1,072,197		
Purchases	6,424,119		
	7,496,316		
Inventory end of period	875,037		
	6,621,279		66.2
Transportation	72,400		.7
Workrooms	114,000		1.1
Total market cost	6,807,679		68.0
Less cash discounts	222,090		2.2
Total merchandise costs		6,585,589	65.8
Gross margin		3,414,411	34.1
Expenses			
Administration	435,000		4.3
Occupancy	814,000		8.1
Buying-receiving-marking	536,000		5.4
Publicity	420,000		4.2
Selling	858,000		8.6
Delivery	132,000		1.3
Total	$3,195,000	3,195,000	31.9
Net profit		$219,411	2.2

The suggested changes in the statement start with the *total-merchandise-costs* figure above which is recaptioned *net market cost.* The proposed arrangement from this point on is as follows:

			Per Cent
		$10,000,000 (Sales)	100.0
Net market cost (total merchandise costs)	$6,585,589		65.8
Buying-receiving-marking	536,000		5.4
Occupancy	814,000		8.1
Publicity	420,000		4.2
Total		8,355,589	83.6
Merchandise spread		1,644,411	16.4
Expense			
Administration	435,000		4.4
Selling	858,000		8.6
Delivery	132,000		1.3
		1,425,000	14.2
Net profit		$ 219,411	2.2

Advantages of setup. The chief reason advanced for this change is that the widely advertised gross-margin figure of retail stores is much misunderstood. In fact, this figure, varying frequently from 30 to 40 per cent, is generally called *gross profit*, with little realization of the fact that it consists almost entirely, if not wholly, of expenses. But the public and legislators have formed the impression that retailers make large profits—because these margins are large—and are accordingly fit subjects for additional taxation and regulatory devices. They are frequently being "put on the spot" because of misconception as to the costs of retail distribution and the net profits (and losses) realized. It is suggested that the rearrangement of figures presents the facts in a truer light, showing that the retailer's cost of merchandise includes not only what he pays the vendor for his goods but also the costs of buying, receiving, marking, and storing goods, and attracting customers to the store. To this amount he adds only a small margin to cover such items as selling, delivery, and administration.

It is also argued that the changes cast the figures into the form used by manufacturers in their accounting. The latter include labor and overhead as well as material in their cost of merchandise figures. Proponents of the plan say that, if the function of distribution is analogous economically to that of production, the direct costs of distribution should be treated as a part of the cost of goods. Retailers' statements are thus made comparable to those of producers, whose expenses have generally stood in smaller ratios to sales.

A third advantage claimed for the change is that over a period of years it will not distort the expense ratio of the retailer if he assumes more and more of the distributing functions that are performed by manufacturers. For example, some years ago, most sales to retailers were consummated by traveling salesmen. Their salaries and commissions, their traveling expenses and entertainment bills entered into the price the retailer paid for the goods, for they were a part of the manufacturer's, not the retailer's, expenses. As buyers more and more travel to the wholesale markets to purchase, retailers' buying expenses have gone up relatively, while manufacturers' expenses and consequently their wholesale prices have gone down. The apparent increase in costs of distribution has been caused by a shifting of the costs of making manufacturer-retailer contacts. Were the suggested plan in operation, the additional buying outlay would remain as a part of the cost of goods, and expense ratios would not be distorted. Of course, this argument applies only to the inclusion of some buying expenses in cost and would not justify similar treatment of selling expenses.

Objections to plan. The following objections have been made to this arrangement:

First, many believe that it will not change the public's or investigator's conception of the retailer's markup. Critics may not go to the store's operating statement for their facts but to manufacturers for cost prices and to retailers for the retail prices of the identical goods. This large margin will continue to exist and will still be thought of as profit. Only the accountant is interested in distinguishing between costs and expenses.

Second, the recasting of the statement may cause even more suspicion as to the need for the markups that retailers realize. Suddenly to come out with a spread of 16 per cent when 34 per cent was proclaimed before may look as though retailers felt they had something to hide and were trying to hide it. Again, when a questioner finds that expenses have been included in costs in arriving at a new "gross profit" of 16 per cent, he will have even greater reason than now to wonder whether exorbitant profits prevail. A 40 per cent margin that admittedly has to cover all expenses looks no worse than a 20 per cent margin that represents the balance after many expenses have been deducted.

Third, a change of this sort causes confusion and impairs comparison of operations over a period of years. The retail craft has gone to great efforts to educate its own membership and outsiders to its accounting setup. To change is costly and leads to new misinterpretations as an attempt is made to correct others.

Finally, the opponents of these changes insist that the analogy between manufacturers and retailers is poor. One produces and the other distributes; there is no reason why their margins should be equivalent in percentage. There is a fairly clear line between production and selling costs but no such line between *costs* of distributing goods and *expenses* of distributing them. They are all costs or all expenses; it is merely a matter of terminology.

In spite of the strength of these arguments, the acceptance by the Securities Exchange Commission of the newer setup indicates that it may be widely used in public statements, but for internal purposes and especially for departmental accounting, the older arrangement is being continued.

APPENDIX B

Special Phases of the Retail Method of Inventory

Although the retail method of inventory has been explained in Chapters 14 and 15, a number of problems in connection with its operation have not been presented. The particular matters worthy of further discussion are (1) handling of price changes; (2) manipulative methods; (3) markdown reserves; (4) transfers; (5) introductions of the retail method; and (6) office entries made in connection with the retail method.

Price Changes under the Retail Method

A difficult problem in connection with correct market valuation is to determine what price changes should affect the initial markup and what should not. It has already been pointed out that markdowns do not reduce the markup percentage and that accordingly marked-down goods in stock are valued at a market price lower than cost. It has also been shown that additional markups do increase the markup percentage and that accordingly marked-up goods in stock are valued at cost rather than at the higher market. But there are some price reductions that are not markdowns and some price increases that are not additional markups. The problem is to determine what increases and decreases should be allowed to affect the total merchandise handled at retail, used in the computation of the markup; and what increases and decreases in price should affect the total retail deduction figure only.

Rules for price changes. The established rules agreed upon some years ago are as follows:

1. Price increases.
    a. Increases above the original retail price are to be handled by means of *additional markups* and thus increase the markup percentage, holding down the derived cost value.
    b. Increases from a marked-down price up to or below the original retail are to be handled as markdown cancellations and thus do not increase the markup percentage. This allows the derived cost value previously depreciated to reach or approach actual cost.[1]
    c. An increase from a marked-down price to a price above the original retail price is to be handled by a markdown cancellation for the difference between marked-down price and original price and by means of an additional markup for the difference between the original price and the new higher price. Thus, derived cost increases somewhat but not in full ratio to the price increase.
2. Price decreases.
    a. Decreases from the original retail or from a point below are to be handled by means of markdowns and thus do not decrease the percentage. This allows derived cost value to reflect the rate of depreciation that occurs in the retail.
    b. Decreases from a price above the original retail to or approaching the original retail are to be handled by means of additional markup cancellations and thus decrease the initial markup percentage.[2] This allows the derived cost value of the inventory to remain at actual cost rather than to reflect depreciation.
    c. Decreases from a price above the original retail to a price below the original retail are to be handled by means of additional markup cancellations for the difference between marked-up price and original price and by means of markdowns for the difference between original price and new price. Thus, derived cost decreases somewhat but not in full ratio to the price decrease.

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[1] There is an exception to this rule when the cancellation takes place in the succeeding accounting period. For this new period, increases in price of goods marked down in the previous period should be treated as additional markups, since the markdown has already entered into profit and loss and can no longer be canceled.

[2] Where the additional markup is taken in one accounting period and the reduction in the next, the latter price change should be treated as a markdown. See footnote 1 for explanation.

Experience and the rapid price changes occurring in recent years, however, have made these rules unsatisfactory in some instances, and some retailers believe that restatement in more fundamental terms is desirable. It should be borne in mind that the goal in inventory valuation is "cost or market whichever is lower." Retail price changes that are allowed to affect the markup percentage tend to yield *invoice cost,* not market prices, whereas retail price changes that *do not* affect the markup percentage tend to yield *market* prices. The following rules for price changes are logical but, as will be pointed out, may lead to manipulation.

If a reduction in retail price signifies a depreciation in cost value, use the markdown; if it does not signify depreciation, use a revision of retail downward (virtually an additional markup cancellation), which is subtracted from retail purchases before the markup is computed. This rule does not apply to discounts to customers and employees, for these are granted at the time of sale and the goods do not remain in stock to be evaluated as a part of a closing inventory. Thus, discounts should be treated in the same way as markdowns, even though they reflect no depreciation.

If an increase in retail price signifies an appreciation in market value above cost, use the additional markup; if it signifies appreciation in market value from below cost to or approaching cost, use the markdown cancellation.

Revisions of retail. In applying these rules, it is desirable to determine the specific types of price reductions that should not reflect depreciation in derived cost value and that should be subtracted from the total retail purchase figure before the markup is calculated. These are:

1. Correction of errors and mechanical mistakes in original pricing or in taking additional markups.
2. Price reductions taken on account of rebates from vendors.

Errors in Pricing. If through error goods costing 60 cents are put into stock at $2 when the buyer intended $1, it is evident that the one dollar should be subtracted from the accumulated retail before the markup is computed. Were the correction treated as a markdown, the markup would be inflated and would yield a derived cost below 60 cents, even though no depreciation has actually occurred.

There is some question whether the correction of a high price growing out of a buyer's enthusiasm should be made by a revision of retail downward rather than by a markdown. For example, a buyer may purchase some merchandise for 60 cents which would normally be marked $1.00. Estimating an imminent rise in cost prices, the buyer may decide to mark the goods $1.10 rather than $1.00. Some time later, the rise failing to materialize, he may mark the goods down to $1.00. If the markup is taken as the difference between 60 cents and $1.10, or 45.45 per cent, the derived cost is 54.5 cents ($1.00 × 54.45%), which is considerably less than 60 cents, the actual cost. But no depreciation may have actually occurred; rather an unwarranted optimistic pricing has been corrected. Should the 10-cent reduction be treated as a revision of retail downward, the markup would be the difference between 60 cents and $1.00, or 40 per cent, and at inventory time the derived cost would tend to equal actual cost.

In spite of the above argument for the use of a "revision of retail" rather than a markdown, the practice in connection with mistakes in judgment might lead to manipulation. A buyer would tend to argue that most of his price reductions were due to mistakes in original pricing and were not markdowns. Thus, he would avoid taking depreciation on reduced goods. Accordingly, the general rule should be that price reductions growing out of mistaken judgment in original pricing are markdowns, except in rare cases when the controller authorizes the other procedure.

Cancellation of Additional Markups. The discussion in the above paragraphs applies also to the cancellation of additional markups that should not have been taken. The buyer may mark the 60-cent cost item $1.00 and later mark it up to $1.10

by means of an additional markup. But the goods may not sell at that price, or it may be found that competitors are selling for less, and the goods may be restored to $1.00. If they are still worth 60 cents at cost, the 10-cent reduction may, with the express permission of the controller, be handled as a revision of retail downward reducing the markup from the point set by the previous additional markup.

Some cancellations of additional markups may logically be handled as markdowns. It is quite possible that a price reduction of the type specified may reflect a true depreciation in cost value. For example:

	Cost	*Retail*	*Markup*
Original entry	$ .60	$1.00	40%
Additional markup		.25	
Additional markup cancellation		.25	
Adjusted entry	$1.00 × 60%	1.00	40% Markup (standard procedure)

If the markup per cent is computed after the 25-cent price cancellation has been deducted, the derived cost is the actual cost. But this reduction, even though only to $1.00, may reflect depreciation or obsolescence, and an unwillingness to replace the goods for 60 cents. In this case, the 60-cent cost is an overstatement. A truer valuation would be obtained as follows:

	Cost	*Retail*	
Original entry	$.60	$1.00	
Additional markup		.25	
Total merchandise handled	.60	1.25	52% (Markup)
Markdown		.25	
Inventory	$1.00 × 48%	$1.00	

Thus, the reduction in retail prices of one fifth reflects a similar reduction in cost value—from 60 cents cost, to 48 cents "market." The same reasoning applies to reductions of price from above original retail to below—from $1.25 to 90 cents, for example. Here again, if the reduction reflects depreciation, the entire 35-cent reduction may properly be treated as a markdown rather than 25 cents as a cancellation and 10 cents as a markdown.

Another reason for treating cancellations of additional markups as markdowns is that the price ticket of an item previously increased in price does not show the original price. The buyer would have to depend on memory to determine when to use the cancellation rather than the markdown. Because of this difficulty, because of the logic in using the markdown when depreciation has occurred, and because of the comparative rarity of this type of transaction, it is perhaps desirable to treat all such reductions as markdowns. The following is an example of the situation that may develop if the additional markup cancellation is used instead of the markdown:

A buyer who is interested in maintaining a record of low markdowns may purchase a stock of goods for $6,000 and retail it for $9,000 even though he intends to offer it for sale at $10,000, a normal markup of 40 per cent for his line. He then takes an additional markup of $1,000 to price the goods as intended.

After selling half the stock he may find it necessary to reduce the remaining half, retailed at $5,000, to $4,500. Instead of taking a markdown, he may put through an additional markup cancellation for $500. The markup is accordingly computed at 36.8 per cent (9,500 retail and 6,000 cost), yielding a derived cost of $2,844 (4,500 × .632). If the goods had been put into stock at $10,000 and the reduction treated as a markdown, the markup would have been 40 per cent and the derived cost $2,700 (4,500 × .60), a figure that fully reflects the 10 per cent depreciation in retail. The first method makes it appear on the records that no markdowns have occurred, and it may also overstate the cost inventory and profits. Such a situation can best be avoided by limiting markup cancellations to the rare cases when the buyer can convince the controller that no depreciation has occurred.

Rebates from Vendors. When a vendor allows a rebate or cumulative quantity discount in the cost price of goods already in the store's stock and when the store reduces the retail price in proportion, the reduction should be handled by a revision of retail downward, not by a markdown. For example, a store may purchase some goods for $6,000 and retail them at $10,000. In the next few days the wholesale price for similar goods may fall to $5,400 and the manufacturer may give the store a rebate of $600. Correspondingly, the store may reduce its retail prices by an aggregate of $1,000.[3] The rebate or allowance reduces the gross purchase figure in the same manner as does a return. The $1,000 reduction at retail should be treated as a revision of retail downward, rather than as a markdown, because in no true sense has the markup been increased by the reduction in cost, for the retail has been proportionately reduced at the same time. Nor does the reduction reflect depreciation from the store standpoint, for the vendor stands the loss.

CORRECT METHOD OF ACCOUNTING FOR REBATES

	Cost	*Retail*	*Markup Per Cent*
Opening inventory	$3,000	$ 5,000	40%
Purchases (gross)	6,000	10,000	
Allowances from vendors	—600		
Revision of retail downward		—1,000	
Total merchandise handled	$8,400	$14,000	40%
Sales		10,000	
Closing inventory	$2,400	$ 4,000	

INCORRECT METHOD OF ACCOUNTING FOR REBATES

	Cost	*Retail*	*Markup Per Cent*
Opening inventory	$3,000	$ 5,000	40%
Purchases (gross)	6,000	10,000	
Allowances from vendors	—600		
Total merchandise handled	$8,400	$15,000	44%
Sales		10,000	
Markdowns		1,000	
Total deductions		$11,000	
Closing inventory	$2,240	$ 4,000	

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[3] The rebate may be obtained at the end of a season and be based on the quantity purchased during the period.

Should the retail reduction caused by the rebate be treated as a markdown, the markup would be increased and the closing inventory understated. An increase in the markup percentage would seem allowable only when the store continues to offer the goods to the public at the original prices, after the rebate is obtained.

Complications arise when the reduction at retail is greater in proportion than the amount of the rebate. For example, with the rebate above of $600, the store might reduce retail prices $1,500 rather than $1,000. It would be incorrect to treat the entire $1,500 as a *revision of retail downward;* obviously, some of the loss in retail value has not been offset by the rebate. The revision should be limited to $1,000 and the balance of $500 treated as a markdown. That is, the rebate at cost should be raised to the retail equivalent by applying the cumulative markup percentage. Any excess of price reduction is a markdown.

Again, the retail price adjustment may be less in proportion than the reduction in cost. For example, with the rebate of $600, the store may reduce its retail prices only $500. The $500 is a revision of retail and not a markdown. Obviously, here the markup has increased somewhat, to 42.1 per cent but not to 44 per cent.

In general, when a reduction is the outgrowth of a rebate from a vendor, it should be handled so as to have the least possible effect on the markup percentage.

Reductions to meet Price Competition. Some students of the retail method insist that price reductions on staple and standard merchandise taken to maintain a competitive price policy and not because of depreciation may be treated as revisions of retail downward, rather than as markdowns. For example, a 60-cent cost item, priced with a normal markup at $1.00, may be reduced to 89 cents to meet competition. If the 11-cent reduction is treated as a markdown, the derived cost would be 53.4 cents. But the goods may still have a wholesale price of 60 cents, and the store may continue to buy them at that price. In this instance, a revision of retail would reduce the markup percentage so that the goods on hand at the 89-cent price would be valued more nearly at cost.

This use of revisions of retail downward is logical but again opens the door to manipulation. If allowed at all, it should be restricted to goods that the store continues to buy at the original cost and should never be applied to special sales from stock where the goods sold are not being replaced with identical ones at the original cost; these reductions are markdowns. It should also be limited to occasions when some of the reduced goods are likely to be in stock at physical inventory date. Should goods reduced by a revision of retail all be sold at the time of inventory, the markup applied to the retail inventory would be too low and thus overstate the closing cost inventory.

Bureau of Internal Revenue regulations on price changes. When the Treasury Department first formulated regulations for the use of the retail method for tax purposes, it stated that, in accumulating total merchandise handled, adjustments were to be made for price increases and decreases. If this were literally interpreted, it would mean that inventories would be valued at approximately original cost rather than at "cost or market, whichever is lower."

Thus:

	Cost	*Retail*
Total merchandise handled before markdowns	$75,000	$150,000
Markdowns	.....	25,000
Revised total merchandise handled	75,000	125,000
Sales		62,500
Closing retail inventory		62,500
Closing cost inventory	37,500	

Since one half of the entire stock is left, it is clear that the "cost" of $37,500 is the original cost. There has been no depreciation of the inventory even though $25,000 in markdowns has been taken.

But most stores interpreted the regulation to mean that additional markups and cancellations of additional markups but not markdowns change the total merchandise handled at retail and thus the markup per cent. For example:

	Cost	*Retail*	*Markup Per Cent*
Total merchandise handled	$75,000	$150,000	50
Sales		62,500	
Markdowns		25,000	
Total deductions		87,500	
Closing retail inventory		62,500	
Closing cost inventory	31,250		

Since the markup is not diluted by markdowns, the application of the markup to the closing inventory gives a lower cost inventory—one that approximates the market price. The difference of $6,250 in closing cost inventory value represents the cost of half the entire markdowns (since half the goods are still on hand). The entire markdowns were $25,000; one half this amount is $12,500 and, with a markup of 50 per cent, the cost of the markdowns is $6,250.

Occasionally, the Bureau of Internal Revenue challenged this practice of excluding markdowns from total merchandise handled but ultimately recognized it, not by changing the original regulation calling for adjustment of the markup for price changes, but by permitting any store to follow the practice, as explained, that depreciates the inventory. Thus, it would seem that a store may legally follow either practice although the logic is in favor of the standard one. In other words, the retail method should be in essence a "cost or market whichever is lower" method.

Methods of Manipulating Market Value

If markup is not correctly computed, the retail method could be manipulated to give either undervaluated or overvaluated market inventories. The opportunities for such manipulation can best be explained by examples.

Fictitious markups. A store might make purchases for $50,000 at cost, marking the goods $100,000, and at once mark them down to $80,000. No depreciation may take place during the control period during which three fourths of the goods are sold and at the end of which one fourth of the goods are left in stock. Thus the closing inventory is $20,000, but the original pricing at $100,000 established a markup of 50 per cent to apply to the closing inventory of $20,000. The derived cost is only $10,000, whereas one fourth of the stock actually cost $12,500, and according to the facts no depreciation has occurred. The market value should equal the original cost value in this instance, but the manipulation of the markup results in understating the cost inventory by $2,500. This reduces profits by $2,500 and may be a method of attempting to evade income tax payments in any one year.

Such manipulation may be checked in two ways by an investigator. First, the markup of 50 per cent would be higher than that obtained on similar merchandise elsewhere, and second, the markdowns of 33⅓ per cent ($20,000 divided by sales of $60,000) would be greatly in excess of what is usual for this line. An excessively high markup coupled with excessively high markdowns provides strong evidence that cost inventories are undervalued. A similar way to inflate the markup figure is to take large additional markups, which are added to retail purchases and increase markup percentages, and at once to take markdowns to offset them.

If a distinction is not made between additional markups and markdown cancellations, the markup might be inflated in the reverse of the order suggested. Purchases costing $60,000 and originally retailed at $100,000 might be marked down to $90,000 and an additional markup then put through to restore the price to $100,000. This would increase the total merchandise handled at retail to $110,000 and inflate the markup to over 45 per cent. Since the goods are actually retailed at $100,000, the cost would be reduced to less than $55,000, a serious understatement. The increase following the markdown is really a markdown cancellation. The total merchandise handled and markup should be left untouched, but the markdowns should be reduced—in this instance to zero.

Unless there is some check on the amount of markdowns taken and upon the handling of markdown cancellations, a store might boost its markup percentage to great heights by overstating its retail purchase figure and thus grossly understate profits. However, as explained in Chapter 13, the understated closing inventory becomes the opening inventory of the next period and thus tends to overstate profits in the next period.

Fictitious markdowns. Even where the markup percentage is correctly computed, there is still the possibility of misrepresenting the cost of the closing inventory, unless markdowns are carefully checked. Just before the physical inventory date, a store might reduce its retail prices well below competitive levels without giving any publicity to the action. For example, with a markup of 40 per cent and a retail inventory of $9,000, the store might take temporary markdowns of $1,000, reducing the retail inventory to $8,000 and the cost inventory from $5,400 to $4,800. Profits would be reduced $600. Immediately after the close of the fiscal period, the inventory might be marked back to $9,000. Since there would be as yet no markdowns in the new period, the increase in price might be treated as an additional markup and tend to overstate the markup percentage of the new period. To avoid such manipulation that has for its purpose the understatement of profits, store auditors should check the amount of markdowns, which would probably be found abnormally large. They would also be most suspicious of markdowns taken shortly before the close of the fiscal year. To avoid the charge that markdowns are taken arbitrarily, a store should take most of its markdowns for clearance purposes a few weeks before the end of the year, and it should be able to prove that the merchandise is actually offered to customers at the reduced price.

Deferred markdowns. Frequently an attempt is made to overstate the closing cost inventory by failing to reduce prices when goods do not sell readily. A merchant would hardly do this, because the practice would increase his tax bill, but a hired buyer who gets a commission on profits might be tempted to do so. He might hold off the taking of markdowns that should be taken to make goods salable. He might continue to carry a stock at an original price of $10,000 even though it is worth only $9,000 today, thus overstating the closing cost inventory by the cost of the markdowns that should have been taken. In the minds of some authorities, the greatest objection to the retail method is the difficulty of prevailing upon buyers to take markdowns promptly.

Under the cost method already discussed, after the actual cost has been determined from codes, depreciation may still be taken on a basis of the price at which the goods are currently selling in the wholesale market.

This apparent limitation of the retail method is perhaps a point in its favor. The system calls for intelligent merchandising, for keeping retail prices right. A store or department that carries goods at unsalable prices is not doing a good job. When individual buyers are out of line with modern merchandising methods, it is the duty of their merchandise managers to insist that they take markdowns. The retail method is devised to fit the operations of those who try to keep their retail prices "right."

Another answer to the critics of the retail method is found in the fact that an overstated closing inventory one year becomes an overstated opening inventory next year. If a buyer is habitually tardy in taking markdowns, both his opening and closing inventories will be overstated nearly the same amount with the result that his profit figures will be approximately correct.

Reserves for Markdowns

Some department stores follow a practice recommended by accountants of depreciating their inventories so as to reflect future markdowns. For example, a department may have on hand a stock of goods that cost $6,000 and was originally marked $10,000, with a departmental markup of 40 per cent. Owing to markdowns, the present retail value of the stock may be $9,000 and the market value, under the retail method, $9,000 × 60 per cent, or $5,400. Yet, it is highly unlikely that $9,000 in sales will be realized from this stock for the following reasons:

1. The buyer may have failed to take adequate markdowns, and some of the stock may be unsalable at present marked prices.
2. Even though all the goods are properly priced today, it will seldom be possible to sell them all at present prices. Styles may change; of a stock of 100 items of a certain style, many may sell readily at the present price, but before all can be disposed of, obsolescence may set in. Again, it is necessary to maintain assortments of styles, colors, and sizes, of which some will be rejected by customers until reduced; but in advance it is impossible to tell which items these will be.
3. The proper moment to take a markdown is a matter of judgment. It may be obvious to the buyer that a part of the $9,000 stock should be marked down further, but it may be desirable to defer the actual markdown for a few days or weeks so as to hold a special clearance sale at a psychological moment.

Owing to a combination of these three factors, the retail value of the stock on hand is generally more than its final sales value; thus both cost and retail inventories are somewhat overstated. To correct this, the practice is to estimate what further markdowns on the stock will be necessary and to set up a reserve for the cost of these estimated future markdowns. For example, it may be estimated that the stock now retailed at $9,000 will finally sell for only $8,000. With an initial markup of 40 per cent, the eventual market value is $4,800, compared with the present market value of $5,400. The difference of $600 is credited to an inventory valuation reserve and charged to cost of merchandise sold. Profits are thus virtually computed upon a basis of the amount that it is thought will eventually be realized on stock, not on a basis of present "market."

When the plan is followed consistently, there is a markdown reserve for opening inventory as well as closing inventory. This must be closed out by *subtracting* it from cost of merchandise sold. Thus, when the opening and closing reserves are the same, the cost of merchandise sold is not affected; when the new reserve is smaller, the cost of merchandise sold is reduced and profits increased, reflecting the improved inventory condition:

	Cost	*Reserve for Markdowns*
Old inventory	$ 7,000	$800
Purchases	25,000	
Total	32,000	
New inventory	5,400	600
Gross cost of merchandise sold	26,600	
Reduction in reserve	200	
Adjusted cost	$26,400	

Account for Reserve	
(new) $600	$800 (old)
(balance credited to cost of mdse. sold) 200	
	600 (new)

The amount of the reserve for markdowns is frequently computed by *aging* the stock and setting up depreciation rates for each age group. For example, in the case of hosiery in one store, future depreciation of 25 per cent is estimated on stock 6-12 months old; 50 per cent on stock 12-18 months; and 75 per cent on stock over 18 months. The total retail reserve is reduced to cost and handled as indicated above.

Transfers

Cost price of transfers. In a former chapter it was pointed out that when merchandise is moved from one department to another, or from one unit of a chain to another unit, it is transferred out at both cost and retail from the purchase figure, very much as though it were being returned to the vendor. Likewise, when goods are moved into a department, they are transferred in at both cost and retail, very much as though they were being bought from an outside vendor. The question arises as to how to determine the cost and retail prices for this purpose. For example, 10 dresses retailed at $10.00 each in the misses' dress department with a markup of 35 per cent may be transferred to retail at $8.50 in the sport shop, where the markup is 32 per cent. Should the dresses be transferred out at a cost of $6.50 each and a retail of $10.00 and transferred into the other department at a retail of $8.50 and a cost of $5.78 ($8.50 × .68)? From an accounting standpoint, this procedure is unsatisfactory because of the failure of the two cost prices to agree. The act of transfer should not change the cost value of stock. If any change in value takes place, it occurs in one department or the other, before or after the transfer. The fundamental principle is that the cost value at which goods are transferred out of one department be the same as that at which they are transferred into another department. It is not essential that the retail prices agree.

A distinction should be made between two types of transfers: one, in which goods are moved to another department because they fail to sell where they are; and another, in which goods are needed by the department to which the goods are sent. In the first case, the department transferring the goods out should take the loss; in the second, the department obtaining the goods should pay the original cost and possibly slightly more to compensate the first department for handling them.

The transfer for clearance purposes. The theoretically sound procedure for the first type can best be explained by means of an example. It may be desired to transfer 100 pair of shoes from the regular upstairs shoe department where they are not selling well to the shoe department in the downstairs store. The markup to date upstairs may be 40 per cent, and the markup in the basement 30 per cent. The shoes may be retailing upstairs for $10.00 a pair, having a derived cost value of $6.00, but the downstairs buyer may be willing to pay only $4.80 cost. The problem is to set retail prices for the transfer so that the markup in the upstairs department is not affected by the disposal of the goods. The retail price for the transfer in (to the downstairs department) is that decided upon by the buyer. Since his markup is 30 per cent, he may mark the goods at $6.85 (4.80 ÷ .70). The goods will be transferred in, then, at a cost of $4.80 and a retail of $6.85.

The transfer out is not so simple. Since the markup upstairs is 40 per cent and the cost for transfer purposes is fixed at $4.80, the retail must be $8.00 (4.80 ÷ .60), but the goods are actually priced at $10.00. What is required is a markdown upstairs of $2.00 a pair before and independent of the transfer. This is equivalent to reducing the cost value of the shoes upstairs from $6.00 to $4.80, or 20 per cent. When the markdown from $10.00 to $8.00 takes place, the goods are transferred out at a cost of $4.80 and a retail of $8.00. Thus the markup is not affected and the cost in the two departments at the time of transfer is identical.

The mechanics of this plan call for agreement on the cost transfer price by both buyers. The upstairs buyer will then make out a form giving his department number, the number of items to be transferred, the agreed cost price, the present retail price upstairs, and the number of the department receiving the goods. There will be columns in which the retail prices for transfer will be recorded later. This form will be handled like an invoice. The downstairs buyer will check it and fill in his retail price per unit. The form will then go to the office, bearing complete information as to the cost and retail of the transfer in of the downstairs department. But the retail for the transfer out will be missing. In the office, the markup to date of the upstairs department will be looked up and applied to the cost of the transfer to determine the retail for transfer purposes. The difference between this derived retail and the original retail indicated by the upstairs buyer will be recorded as a regular markdown for the upstairs department, but the record will be made out in the office, rather than by the buyer himself. It is conceivable that the derived retail price may be higher than the actual retail price upstairs. In this case, an additional markup, rather than a markdown, will be required in the upstairs department.[4] See Figure 18, page 257, for the form used.

The transfer to supply needed stock. When there has been no depreciation and the receiving department takes the initiative to obtain goods, one of three simple methods may be used:

1. The first department may transfer the goods out at actual (billed) cost and present retail, and the second department may transfer them in at the same cost and retail. If the buyer in the second department wishes to sell them for more, he can take an additional markup; if for less, a revision of retail downward. If the department receiving the goods is a nonselling department, rather than another selling department, the goods need be transferred in *only at cost*. For example, a rug may be transferred to the executive offices for decoration; an item lost in delivery may be transferred to the delivery department at cost as an expense; yard goods may be transferred to a drapery workroom.
2. The goods may be transferred at present retail, and a cost may be obtained by applying the "out" department's markup percentage to date to the retail. For example, if the retail is $10 and the markup 40 per cent, the transfer is made at $10 retail and $6 cost. Thus the transfer has no effect on the markup, and it is not necessary to determine the actual cost of the goods transferred.
3. A standard markup such as 25 per cent may be established for such transfers. For example, if an article retailing at $10.00

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[4] *Alternate method of handling.* A simplified method of handling such transfers is to indicate on the transfer form the planned retail of the "in" department and the actual retail of the "out" department. The cost for transfer purposes is determined by applying the markup of the "in" department to the planned retail. In the shoe department illustrated, the shoes would be transferred in at a cost of $4.80 and a retail of $6.85. They would be transferred out of the other department at a cost of $4.80 and a retail of $10.00. This method avoids a markdown but reduces the actual markup of the "out" department in that goods are transferred out at a very high markup. When transfers represent a very small proportion of total merchandise handled, the distortion may not be sufficient to be significant.

is transferred to a department that needs it either to use or sell, it may be transferred out at $7.50 cost and $10.00 retail and in at the same cost and (if to another selling department) same retail. Since the markup in the first department is probably more than 25 per cent, this plan allows some profit to the first department by reducing its cost of goods sold in excess of the actual cost of the goods transferred. This may be justified as fair compensation for handling.

In the case of a transfer from the comparison department to a selling department of an article bought at retail in a competing store, the "cost" may be determined from the "in" department's markup percentage. For example, a man's suit in a competing store may be bought at $32.00 and after comparison may be put into the store's price line of $29.50. To enter this as a $32.00 cost and a $29.50 retail might distort the department's markup percentage to be applied to the closing inventory. Rather, the average markup of the department may be applied to the $29.50 retail to determine the transfer cost. If this is 40 per cent, the goods will be charged in at $17.70, and the difference between the $32.00 cost and the derived cost of $17.70 will be treated as an administrative expense. The expense here would be $14.30. Although the above is a recommended and technically correct procedure, few stores make this adjustment. Most treat the amount paid in the other store as the cost even though this results in a negative markup.

Limitations of transfers at fixed markups. Some stores use the fixed markup plan for all transfers even when the first department is anxious to dispose of the goods. When the buyer of the second department is unwilling to pay the derived price, however, a markdown will have to be taken before the transfer. For example, the $10.00 retail item is to be transferred at a 25 per cent markup, but the other department is willing to pay only $6.00 rather than $7.50. The first buyer, then, will have to take a markdown to $8.00 so that the goods may be transferred out at $8.00 retail and $6.00 cost, a markup of 25 per cent.

Where the amount of goods transferred is small in comparison with the total merchandise handled in both departments, there is little objection to handling it at a fixed markup. But a tendency to distort the markup percentages of both departments exists and may become serious when transfers are frequent. This danger may be explained by means of an example where goods having a retail of $1,000 are transferred out at a 30 per cent markup from a department having a markup to date of 40 per cent, and into a department having a markup of 25 per cent.

"OUT" DEPARTMENT	*Cost*	*Retail*	*Markup Per Cent*
Opening inventory plus purchases to date	$6,000	$10,000	40
Transfers out	700	1,000	30
Total merchandise handled	$5,300	$9,000	41.1
"IN" DEPARTMENT			
Opening inventory plus purchases to date	$7,500	$10,000	25
Transfers in	700	1,000	30
Total merchandise handled	$8,200	$11,000	25.5

It is evident that a transfer out at a lower markup than the average to date *increases* the markup percentage. Likewise, a transfer in at a higher markup than the average to date increases the markup. It follows that a transfer out at a higher markup than the average to date *decreases* the markup. Since a transfer can be treated as an operation distinct from one involving changes in value, there is no justification, beyond that of convenience in practice, for allowing the transfer out to affect the markup of a department. Since the markup determines the cost value of the closing inventory, it is unwise to allow merchandise that has been transferred out to affect its value. For example, if the above "out" department had a closing inventory of $1,000 that cost $600 at a 40 per cent markup, the inflated markup of 41.1 per cent would yield an understated cost inventory of $589.

Handling losses. A transfer may be used not only in connection with the movement of physical merchandise from one selling department to another selling or nonselling department, but also to charge a nonselling department for a merchandise loss when the selling department is not at fault and the nonselling department is.

For example, a glass dish sold for $10 may be broken in delivery. Since the dish may have cost the china and glass department only $6, it is not correct to charge delivery expense $10. Accordingly, a form may be made out "returning" the article to the selling department, reducing net sales $10. Since the physical goods are not returned, the goods, by means of the same form, may then be transferred out of the selling department's purchase record at $6 cost and $10 retail and charged to the delivery department at $6 cost. The retail equivalent is not charged to any account, since it is merely a memorandum record. Replacement of the goods may then be handled by a new salescheck. Should the selling department be held responsible for the damage (due perhaps to faulty merchandise), there is no transfer; rather, after the goods were returned to the department, a markdown would be taken for the $10 retail value.

A simpler plan of handling goods broken, damaged, or lost in delivery or packing is to transfer out a duplicate article at cost and retail to the delivery or packing department. Thus, neither gross sales nor returns are affected, but the duplicate article is transferred out on a "no sale" form and delivered to the customer. Because of its simplicity, this method is to be recommended.

In some stores, the transfer is also used to charge an expense account for allowances to customers where the selling department is not at fault, after the amount of the allowance has been deducted from gross sales. This transaction may be handled the same way as just described in connection with delivery. For example, an important charge customer may demand full credit on a $10 article she has damaged through misuse. Since the department is not at fault, the adjustment office may decide to shoulder the cost of the article, which may be $6. The goods are first returned to the department, reducing net sales $10, and are then, by means of the same form, transferred out at the $6 cost and $10 retail and a "policy allowance account" charged $6. The accumulation in this account is distributed periodically to all the departments in the store as a part of their overhead expense. Under this plan, the department loses the sale but does not lose the cost value of the goods. The simplified procedure is not possible here when the customer does not wish other goods.

Some stores do not recognize a policy allowance, each department standing its own loss even though it may not be at fault. In the above instance the $10 credited to the customer is charged to the "returns and allowance account" of the selling department, and then a $10 markdown is taken.

Recommended handling of transfers. With so many variations in handling of transfers, it is difficult to suggest a standard procedure. Volume of transfers in view of total purchases and ease in calculation must be considered. The following may be suggested:

1. If the department receiving the goods is assisting in the disposal of unsalable goods, the plan outlined on page 568 may be used; the "in" department determines the transfer cost, which is divided by the complement of the markup of the "out" department to determine the retail of the transfer out. If this is less than the present retail, a markdown is taken. The buyer of the "in" department sets a retail in view of his own markup percentage. In the case of a nonselling department, no retail is necessary.

2. If the "in" department is in need of goods that have not depreciated, the goods may be transferred out at actual cost and present retail and in at the same cost. If the "in" department is a selling department, it sets a retail in the same way as for any new purchase from a vendor.

Introduction of the Retail Method

Transition period. If a store using the cost method of inventory wishes to change to the retail basis, the transition should be made gradually by operating for the period of one year with both methods. This trial period accustoms the organization to mark retail prices on invoices and to record all reductions, without losing track of actual costs. Again, this plan makes it possible to check the inventory derived by the retail method against the cost inventory as determined in the older way. Should there be a great discrepancy in the results, it may be an indication that instructions in regard to the computation of the markup percentage have not been followed or that the high and low markup goods were not selling in proportion. For example, if the derived inventory has a much higher value than the market inventory compiled with the use of cost codes, it may be an indication that little of the low-markup goods handled is represented in the closing inventory.

Of course, perfect agreement between cost or market values derived by the two methods is not to be expected. It has generally been found that the retail method does give a slightly higher derived cost, probably because of the tendency for the low-markup goods to sell more rapidly and because of failure to take markdowns promptly. But this fact would tend to increase profits during the first year of operation only, for the larger closing inventory of the first year becomes the larger opening inventory the following year. If the closing inventory the second year were also slightly overstated, the profits the second year would be highly accurate.

When the two cost inventories do not agree at the time of transition, it is desirable to set up a reserve for the difference so as to keep the inventory account on the ledger the same as that on the statistical records. For example, at the end of the year during which both the cost and retail methods have been operating in the same department, the derived cost inventory may be $10,000 and the cost or market inventory, as formerly obtained, $9,800. The latter is still the official figure to be used in computing the profits of the period just ended, but the new period is to be opened with a $10,000 cost inventory, since the retail method is to be used exclusively from then on. This change in inventory valuation is accomplished by debiting the cost inventory $200 and crediting a "reserve for inventory valuation" $200. Under current regulations of the Bureau of Internal Revenue this is taxable, but formerly retailers were allowed to treat this in the balance sheet as a permanent liability or as one eventually to be added to surplus without including it in profits for tax purposes.

Period to be covered. At the beginning of the year in which the retail method becomes the official one, the cost value of the inventory may have been derived by means of a markup accumulated over the whole of the preceding year. When the retail method was first standardized, it was the intention to have the markup (on opening inventory and purchase figures) accumulated over a full year of operation. It was not deemed correct to base it on total merchandise handled during the last month or six months of the year. But more recently, many stores have used markup based on the accumulation of purchases over a shorter period of time. The two methods of accumulation can best be explained by two illustrations, where most of the purchases and sales occur in the fall season.

METHODS OF COMPUTATING MARKUP PERCENTAGE

ORIGINAL METHOD OF COMPUTING MARKUP PERCENTAGE

	Cost	*Retail*	*Markup Per Cent*
Inventory, February 1, 1948 (Markup based on total merchandise handled during preceding fiscal year)	$ 6,500	$10,000	35
Purchases, February 1, 1948, to February 1, 1949 ..	24,000	40,000	40
Total merchandise handled for year	30,500	50,000	39
Sales and reductions		40,000	
Inventory, February 1, 1949	6,100	10,000	39

ALTERNATE METHOD OF COMPUTING MARKUP PERCENTAGE

	Cost	*Retail*	*Markup Per Cent*
Inventory, February 1, 1948	$ 6,500	$10,000	35
Purchases, February 1, 1948, to August 1, 1948	9,000	15,000	40
Total merchandise handled for six-month period	15,500	25,000	38
Sales and reductions, February 1 to August 1, 1948		15,000	
Inventory, August 1, 1948	6,200	10,000	38
Purchases, August 1, 1948, to February 1, 1949	15,000	25,000	40
Total merchandise handled for second six-month period	21,200	35,000	39.43
Sales and reductions, August 1 to February 1, 1949		25,000	
Inventory, February 1, 1949	6,057	10,000	39.43

It will be noted that there is a difference between the February 1, 1949, cost inventories of $43. This is caused by the difference in the two markup percentages. Under the first method, the opening inventory, with its lower markup, has relatively heavy weight, 20 per cent. But in the second computation, more weight is given to the purchases with the higher markup.

Should the markup be computed from monthly inventories rather than semiannual ones, the difference would be much greater, probably, for the markup on the inventory at the beginning of the year would then have a negligible influence at the end of the year.

The correct period of time to use depends upon the rapidity of turnover and the degree of change in purchase markups during the year. Where turnover is rapid, it may be that at the end of the year little or none of the beginning stock is left, and the markup on purchases may more clearly reflect the actual markup on closing inventory than does the markup on total merchandise handled. But the theory under which the retail method was originally evolved was that the closing inventory would have in it some of the opening stock, proportionate to the latter's representation in total merchandise handled. In the example, the assumption was that $2,000, or 20 per cent of the closing inventory of $10,000, represented 35 per cent markup goods, because the old inventory is 20 per cent of the total merchandise handled.

Accordingly, the monthly and semiannual accumulations were not recognized as correct procedure, even though weekly and monthly inventories were derived for internal control purposes. But now the shorter accumulations are regarded as more accurate for fast-selling merchandise. For example, it may be found in a dress department that little stock purchased three months before is on hand, and no stock purchased six months before. In this instance, the markup at the end of the year might logically be computed by adding to the inventory of three months ago the purchases of the last three months.

As a general rule, the markup used may be based on the opening inventory plus subsequent purchases of the past six-month period.[5]

Office Procedure

The office procedure in connection with the retail method involves entering merchandise purchase invoices on department journals at both cost and retail. See Figure 63. Cash discounts may be shown for each bill, or their amount may be obtained from a "cash book" as discounts are actually deducted at time of payment. Transportation charges paid by the store are entered in the cost column either when the invoice is entered or once a week or month for the entire amount paid out for the department. Returns to vendors have to be entered in red or as a minus item in both the cost and retail columns, and allowances and rebates from vendors must be entered in the cost column. Transfers in and out of the department are entered at both cost and retail—the transfer in as a purchase and the transfer out as a return. Purchases from manufacturing de-

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[5] An investigation among New York department and specialty stores showed that 16 accumulate the markup over a six-month period, 9 over a full year, and 3 monthly.

DEPARTMENT DEPARTMENTAL PURCHASE RECORD

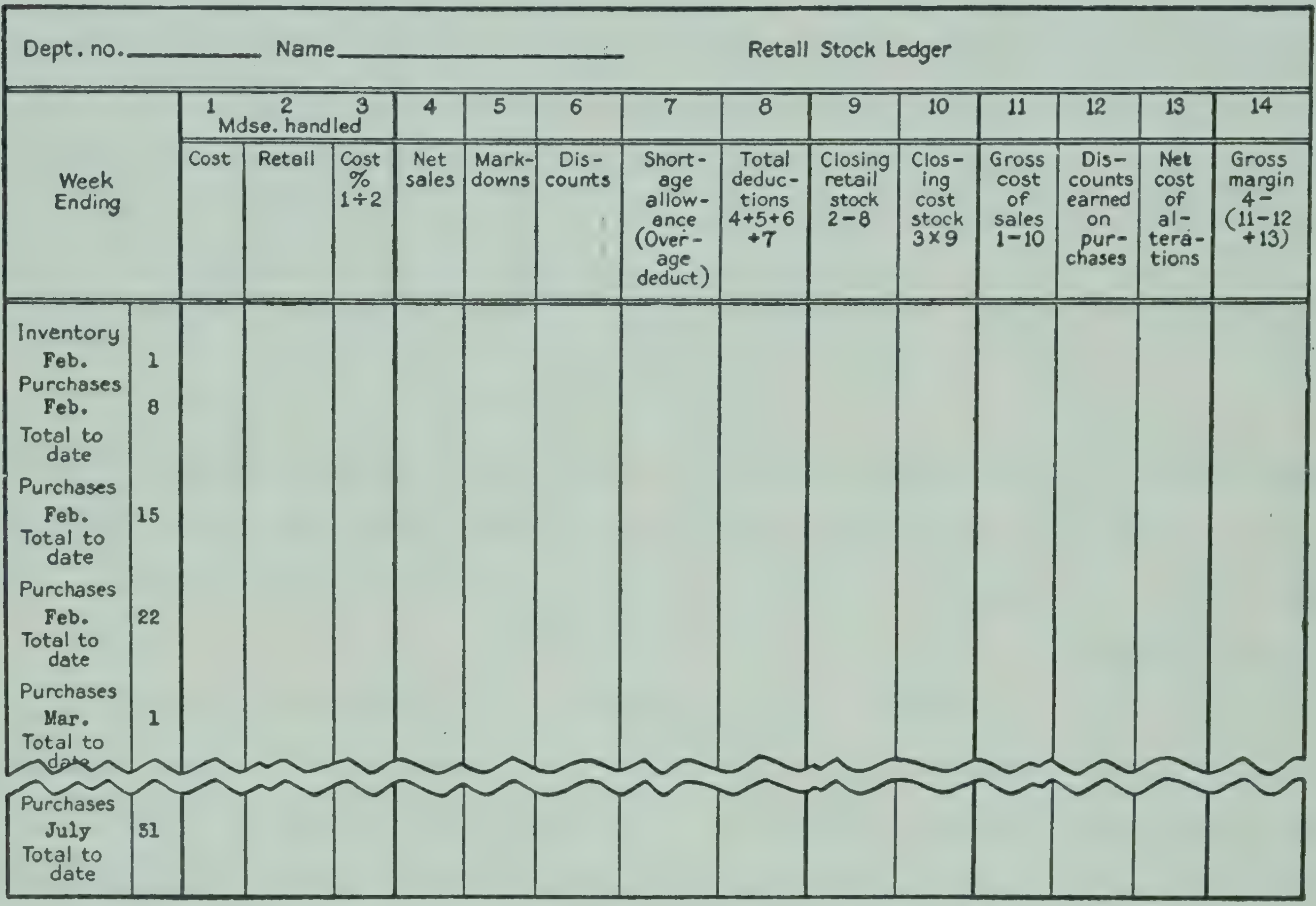
Date	Class	Vendor	Cash Discount Available	Cost	Retail	M.U. %	Old Balance		Total To Date	
							Cost	Retail	Cost	Retail

FIGURE 63.

partments are entered also as regular purchases at both total cost of manufacture and retail price, and foreign purchases are entered at "landed" cost in the cost column and at retail in the retail column.

Additional markups and revisions of retail downward are both recorded in the retail column only, the former as additions and the latter as subtractions. As already indicated, great care must be exercised not to include markdown cancellations with additional markups or to include markdowns with revisions of retail downward.

Retail stock ledger. The purchase figures, as above described, may be totaled each week or month at both cost and retail and entered on a retail stock ledger. See Figure 64. On the first line will appear the inventory at the beginning of the period at both cost and retail. By adding the purchases weekly (or monthly) the total merchandise handled is obtained and the markup to date computed. In Figure 64, the complement of the markup is found directly by dividing the cost by the retail. The deductions, composed of net sales, markdowns and discounts to customers and employees, and sometimes estimated shortages, are also entered weekly (or monthly), and their sum is subtracted from total merchandise handled at retail to obtain the closing retail stock figure. To obtain the markdown figure, a daily record must be kept of both markdowns and markdown cancellations taking place in each department. Shortages may be omitted and determined only at the end of the season when inventory is taken, but many stores find it desirable to estimate them each week or month.



Dept. no.________ Name________________ Retail Stock Ledger

Week Ending		1	2	3	4	5	6	7	8	9	10	11	12	13	14
		Mdse. handled													
		Cost	Retail	Cost % 1÷2	Net sales	Markdowns	Discounts	Shortage allowance (Overage deduct)	Total deductions 4+5+6+7	Closing retail stock 2−8	Closing cost stock 3×9	Gross cost of sales 1−10	Discounts earned on purchases	Net cost of alterations	Gross margin 4−(11−12+13)
Inventory Feb.	1														
Purchases Feb.	8														
Total to date															
Purchases Feb.	15														
Total to date															
Purchases Feb.	22														
Total to date															
Purchases Mar.	1														
Total to date															
Purchases July	31														
Total to date															

FIGURE 64. Retail Stock Ledger.

The closing cost stock each week or month is found by multiplying the derived retail stock by the complement of the markup to date. The gross cost of goods sold may be computed by subtracting the closing inventory at cost from the total merchandise handled at cost.

APPENDIX C

The LIFO Method of Inventory Valuation

As the armament program of the United States got under way about 1940, preliminary to participation in World War II, it became apparent to many merchants that the coming inflation would tie up profits in high cost inventories. Accordingly, some of them introduced a method new to retailers known as the last-in-first-out or LIFO method.

Until this time, virtually all retailers valued their inventories at cost prices or at "cost or market" prices, whichever were lower. Since the first items coming into stock during a year are generally sold before those received later, the closing inventory consists mainly of current season's purchases rather than of the inventory carried over from the year before. Thus, the cost of the items in stock under the "cost" or "cost or market" methods is the cost of the last purchases rather than the cost of the first purchases already sold. This is known as the first-in first-out or FIFO Method of inventory valuation.

This premise that the value of an inventory is the cost or market price of the actual or newest merchandise on hand works well in normal times, but leads to difficulties during periods of inflation when replacements cost more than the original stock. For example,

				Average	
	Cost	Retail	Units	Cost	Markup
Opening inventory	$ 5,000		5,000	$1.00	37½%
Purchases	12,500		10,000	1.25	37½
Total merchandise handled	$17,500		15,000		
Closing inventory	6,250		5,000	1.25	37½
Cost of merchandise sold	$11,250				
Sales—5,000—@ $1.60		$ 8,000			
5,000—@ $2.00		10,000			
Total sales		$18,000	10,000		
Gross margin	6,750				
Expenses	5,500				
Operating profit	$ 1,250				

From a cash position, however, we have the following situation, assuming cash sales and immediate payment for purchases:

Receipts—sales		$18,000
Payments—		
Purchases	$12,500	
Expenses	5,500	
		18,000

Since it has required $6,250 to replace the original stock that cost $5,000, all the profits have been absorbed in carrying a higher priced inventory and we have no cash margin with which to pay income taxes on the $1,250 profit or to satisfy stockholders who note the "profitable" operation and demand some dividend. Frequently, the results are even worse, with less cash at the end of the year than at the beginning and no increase in physical inventory even though substantial profits are shown.

This situation that existed in the years during and following World War II led the president of a great department store chain to remark that "the great problem is to finance store operations and larger dollar volume at present price levels."

Philosophy of LIFO. As a solution for this problem, a number of leading retailers requested permission of the Bureau of Internal Revenue to use the LIFO method, which had been approved by Congress with extractive industries in mind in 1938 and made applicable to all industry in 1939. Retailers first used the method in 1941. LIFO, or "last-in-first-out," assumes that a basic and fixed stock assortment is necessary to conduct business and that sales are made, not from the basic stock, but from new purchases, i.e., the last receipt selling first. To give some semblance of reality to this concept, it is argued that when a customer orders an item that the store must now procure, a similar item is borrowed from the fixed stock to avoid her waiting. When the replacement arrives, it finds its way into the fixed stock. Thus, the value of the basic stock does not fluctuate with changes in wholesale prices. This interpretation makes it possible to value a physical assortment at a constant figure even though the actual cost may be higher or lower due to inflation or deflation.

By holding down the value of an inventory on a rising market and holding it up on a falling market, the LIFO method gives a steadier, less fluctuating profit, over the business cycle—smaller profits in periods of prosperity and larger ones in depressions. Theoretically, over a complete business cycle, the profits would be the same under either LIFO or FIFO, but taxes might be considerably less in total under LIFO, and stores would not be under pressure or necessity to make cash payments when the cash is not available.

Identifying items in stock. When the LIFO method was first made applicable to all tax payers in 1939, it was assumed by the tax authorities that retailers would attempt to use it only if they could identify items in stock identical to those on hand in the opening inventory. For example, if a retailer of luggage had at the beginning of the year 100 cases that cost him $15 each and at the end of the year 120 identical cases that cost him $20 each, he was clearly allowed, under LIFO, to value 100 of them at $15 each and only the 20 additional ones at $20 each.

But stores operating under the retail method of inventory do not identify individual articles, and it was not until the Tax Court decision in the Hutzler case that the tax commission recognized that retailers may use the LIFO method without identifying specific articles in the inventory. The use of an acceptable price index was recognized as a valid method of determining the former value of a present inventory.

Examples of LIFO. Under LIFO, where individual articles are not identified, the value of the closing inventory is calculated as follows, using the same situation depicted on page 582:

	Cost	*Retail*	*Markup Per Cent*
Opening inventory	$ 5,000	$ 8,000	37½
Purchases	12,500	20,000	37½
Total merchandise handled	$17,500	28,000	
Sales		18,000	
Closing retail inventory		$10,000	
Retail price index (end-of-year prices ÷ first-of-year prices)			125
Closing inventory valued at first-of-year prices ($10,000 ÷ 1.25)		8,000	
Closing inventory at LIFO cost ($8,000 × .625)	5,000		
Cost of merchandise sold	$12,500		
Sales	18,000		
Gross margin	5,500		
Expenses	5,500		
Operating profit	000		

Thus, with the closing inventory valued at $5,000 rather than $6,250, there would be no profit and no tax to pay, instead of a profit of $1,250, as in the preceding example. Since this method of calculation reduces stated profits in periods of inflation, many stores favored it during the 1941 to 1948 period.

In practice, the computation is more complicated due to increases or decreases in the physical stock, differences between the markup on opening inventory and on purchases, and markdowns taken.

Under the retail method of inventory, markdowns do not lower the markup per cent on total merchandise handled or on purchases. But under LIFO, the Bureau of Internal Revenue insists that markdowns taken during a period must be subtracted from original retail purchases before the markup is figured. As a result, the markup on the opening inventory is based on the "net" markup after markdowns on the previous season's purchases. Thus, if the markup computed on the opening inventory under the retail method is 39 per cent, it may be only 36 per cent under LIFO, due to markdowns taken the previous period.[1] The following example shows how various matters are handled:

	LIFO Cost	*Cost*	*Retail*	*Markup Per Cent*
Opening inventory	($64,000*)	$ 61,000	$100,000	39.0 (36.0)
Purchases		126,000	210,000	
Markdown taken during year			10,000	
			200,000	37.0
Total merchandise handled		$187,000	300,000	
Sales and other deductions			175,000	
Closing inventory			$125,000	
Retail price index compared with first year: 110				
Retail closing inventory valued at prices at beginning year ($125,000 ÷ 1.10)			113,636	
Actual opening inventory			100,000	
Increase in inventory at first of year value			$13,636	
Present retail value of increase in inventory ($13,636 × 1.10)			15,000	
Cost value of increase in inventory ($15,000 × .63)		9,450		
LIFO value of closing inventory. Cost of basic stock	64,000*			
plus increase at current prices	9,450			
Total	$73,450			

* Based on net markup of 36% (after markdowns of previous period).

Compared with the retail method. Computed under the retail method, the closing cost inventory would be $75,375, calculated as follows:

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[1] It has been demonstrated that with a sharp rise in inventory during a year, the use of the "net" markup (which is lower than the initial markup) may so increase the cost value of the closing inventory as to offset the tendency toward a low cost value caused by the application of the price index. For details see H. I. Kheinhaus, "The Mathematics of Lifo," in *Journal of Retailing*, September, 1949.

	Cost	Retail	Markup Per Cent
Opening inventory	$ 61,000	$100,000	
Purchases	126,000	210,000	
Total merchandise handled	$187,000	310,000	39.7
Sales		175,000	
Markdowns		10,000	
Closing inventory at retail		$125,000	
Closing inventory at cost ($125,000 × .603)	$ 75,375		

Thus, the store's profits for the year would be about $2,000 less under the LIFO method.

Estimating savings under LIFO over a series of years. To carry out the example over an entire business cycle with first further increases, than decreases, in the price level would lead to complicated calculations beyond the scope of this analysis, but Table XVI on page 588 shows the calculation over a period of a few years.

This table compares the LIFO inventory with the "cost or market" inventory obtained with the retail method. The example is worked out for a women's apparel store as a whole, even though in actual practice LIFO inventory should be calculated departmentally, using the Bureau of Labor Statistics' departmental price indexes. See Table XVII. In the example, the index used is an average of two of these indexes: women's apparel and underwear.

A form similar to Table XVI makes it possible for a store operating on the retail method to estimate how much lower its cost inventories will be if it should be allowed to file tax statements on the LIFO basis. Cost inventory as calculated at the end of 1947 by means of the retail method was $2,619,000, whereas under LIFO it would have been $1,757,000. Thus, with LIFO it would have been $862,000 smaller. Since under the retail method, the inventory at the beginning (end of 1940) was $908,000 and at the end (end of 1947) $2,619,000, there was an increase of $1,711,000. Under LIFO, the beginning inventory was $951,000 and at the end $1,757,000, an increase of

$806,000. Thus, profits under LIFO would have been $905,000 lower for the entire period.

Some explanation of the calculations in the table may be helpful:

For simplicity, it is assumed that the net markup (markon) remains 35 per cent through the entire period. This is less than the initial or cumulative markup since, as already explained, the Bureau of Internal Revenue insists that markdowns be subtracted from the retail purchase figure in calculating net markup. Under the retail method, they are not subtracted.

The table starts with the inventory at the end of 1940, which was $1,464,000 at retail. With a net markup of 35 per cent (on the previous year's purchases) this is a cost inventory of $951,000. Since the initial markup (before markdowns) was about 38 per cent, the cost inventory obtained by the retail method was $908,000.

At the end of 1941, retail prices had risen 17.3 per cent and the retail inventory was $2,148,000. This is divided by 1.173 to express the retail value of the inventory in terms of the price level at the end of 1940. This is $1,831,000, an increase in physical inventory of $367,000. Since this increase must be valuated in terms of current prices, it is multiplied by 1.173 to give $430,000. This is then reduced to cost by multiplying by 65 per cent, yielding a cost increase in inventory of $279,000. Since the basic inventory on hand at the start was $951,000, the increase of $279,000 is added to give a closing LIFO inventory of $1,230,000. This compares with a cost inventory, under the retail method, of $1,305,000. Thus, profits are reduced $75,000.

The calculation at the end of 1942 is much the same. But this time the cost of the increase in the inventory ($128,000) is added to the LIFO inventory of the year before ($1,230,000) rather than to the inventory at the end of 1940.

TABLE XVI

LIFO CALCULATIONS, APPAREL CHAIN

(Index Figures, Average BLS. Apparel and Underwear)[1]

	1940	1941	1942	1943	1944	1945	1946	1947
A. Net markon % (assumed)	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0
B. Price index	100	117.3	130.0	138.8	146.3	151.4	161.7	179.8
C. End of year inventory (total store) retail	1,464	2,148	2,579	2,643	2,695	3,090	4,011	4,224
D. End of year inventory retail adjusted to 100	1,464	1,831	1,983	1,904	1,842	2,040	2,480	2,349
E. Change during year D—prior year's D		367	152	79	62	198	440	131
F. *If increase,* adjust to current index (E × B)		430	197			299	711	
G. Cost of *increase* (F × [100 — A])		279	128			194	462	
H. If E shows *decrease,* deduct from last increase (include in amount deducted all interval decreases) until some part of an increase remains. Enter amount remaining of such increases and note the year acquired.*				73	11			309
I. Adjust H amount to index of year noted				94	14			499
J. Cost of I (I × 100 — A of year noted)				61	9			324
K. Add prior years ending LIFO to G — *or* opening LIFO inv. of year noted in H to J	951**	951	1,230	1,230	1,230	1,239	1,433	1,433
L. This is year end LIFO inventory		1,230	1,358	1,291	1,239	1,433	1,895	1,757
M. Closing *cost* inv. per books (retail method)	908	1,305	1,599	1,639	1,671	1,916	2,487	2,619
N. LIFO reserve to date (M — L)		75	241	348	432	481	592	862
O. Change in reserve for the year (N — prior N)								

* If necessary to go back to base year's inventory, "H" will show a negative figure.

** On net markon basis

Dollar figures in this illustration are in thousands

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[1] Table prepared by H. I. Kleinhaus and printed in *Women's Wear Daily*, September 13, 1948, page 52.

TABLE XVII

ANNUAL PER CENT INCREASE IN DEPARTMENT STORE INVENTORY PRICE INDEXES BY DEPARTMENT GROUPS—BUREAU OF LABOR STATISTICS

	January to January						
Group	1941 to 1942	1942 to 1943	1943 to 1944	1944 to 1945	1945 to 1946	1946 to 1947	1947 to 1948
I. Piece goods, domestics, and draperies	20.3	13.7	5.3	4.8	10.4	17.8	11.3
II. Shoes	8.7	9.7	2.5	2.0	5.2	22.5	18.5
III. Ladies' underwear	16.7	12.5	3.8	6.4	1.4	8.0	12.2
IV. Ladies' outerwear and girls' wear	17.9	9.2	9.8	4.5	5.5	5.7	10.1
V. Men's and boys' wear	12.9	15.0	7.4	3.8	4.4	18.4	6.2
VI. Furniture and bedding	21.0	4.3	2.0	11.1	5.0	12.5	9.5
VII. Home furnishings	9.0	4.3	4.0	4.2	6.8	12.8	9.5
VIII. Major appliances and electrical goods	18.1	3.1	4.7	5.6	3.7	13.1	7.7
IX. Notions and toilet articles	10.2	2.3	.9	6.6	–.6	3.4	12.8
Total, Groups I, II, III, IV, V, IX	15.0	10.9	5.7	5.3	4.7	12.2	10.7
Total, Groups VI, VII, VIII	14.4	4.1	3.3	6.8	5.7	12.8	9.1
Store total	14.8	8.8	5.3	5.6	4.9	12.3	10.3

TABLE XVII—Continued

Group	*July to July* 1941 to 1942	1942 to 1943	1943 to 1944	1944 to 1945	1945 to 1946	1946 to 1947
I. Piece goods, domestics, and draperies	27.2	4.3	7.5	4.6	8.9	17.3
II. Shoes	14.6	3.7	2.5	2.0	8.3	29.0
III. Ladies' underwear	27.0	4.8	7.4	3.7	1.6	11.8
IV. Ladies' outerwear and girls' wear	18.9	6.4	8.4	5.1	4.9	7.5
V. Men's and boys' wear	21.7	5.9	7.1	3.7	10.5	16.6
VI. Furniture and bedding	16.9	1.9	11.9	4.0	9.2	12.9
VII. Home furnishings	7.2	1.5	3.6	4.2	8.8	12.0
VIII. Major appliances and electrical goods	16.1	3.9	7.1	3.3	8.7	12.8
IX. Notions and toilet articles	11.5	1.2	6.6	.1	–.1	7.2
Total, Groups I, II, III, IV, V, IX	20.6	4.9	7.0	3.6	5.6	13.7
Total, Groups VI, VII, VIII	11.9	2.0	6.8	4.0	8.9	12.5
Store total	17.7	4.0	7.0	3.7	6.5	13.4

At the end of 1943, a decline in the physical amount of the inventory complicates the calculation. The inventory at retail was $62,643,000. When divided by the price index of 138.8, the inventory in terms of 1940 (end) values is only $1,904,000. This is $79,000 less than it was the year before. This cancels some of the increase of $152,000 that occurred in 1942 and leaves a net increase over the 1941 value of only $73,000. This is brought back from 1940 value to 1942 value by multiplying by 1.30, giving $94,000. This is reduced to cost by the markup at the end of 1942 to give $61,000. This is then added, not to the LIFO value of the year before (1942), but to the value at the end of 1941 ($1,230,000) to give $1,291,000. Under the retail method, the figure would have been $1,639,000.

It should be noted that where there is a decrease in physical inventory in terms of the price level in the base year, the decrease cancels some of the increase of the year before and the calculation for the present year is then essentially a recalculation of the inventory of the previous year using the net increase over the two years. It is possible that the decrease in any one year will exceed the increase of the year before. In this case it is necessary to go back two or more years until an increase is shown. Also, as in 1944, the decrease of $62,000 has to be added to the previous decrease of $79,000 and the total of $141,000 subtracted from the 1942 increase of $152,000. The net increase of $11,000 is adjusted to the 1942 price level and reduced to cost by the net markup at that time. This net cost increase is added to the LIFO value of 1941. Thus, inventory decreases cancel previous increases.

Current status. Although the legal right of retailers to use the LIFO method based on a price index was recognized in January, 1947, by the Tax Court in the Hutzler case (Baltimore department store), there was question as to the validity of the available price indexes that purported to show how much the prices of general merchandise had risen or dropped year by year.

The Bureau of Internal Revenue refused to accept tax returns in which the devaluation was accomplished by means of a series of retail price indexes calculated by the National Industrial Conference Board for the National Retail Dry Goods Association. Finally, however, the Bureau of Labor Statistics worked out an index that was acceptable to the Bureau of Internal Revenue, and stores, that had filed unacceptable returns based on LIFO in 1941 and thereafter, recalculated the values of their inventories as a basis for refund claims.

A group of retailers have moved to press Congress to authorize the retroactive use of LIFO so that stores that were deterred from switching to LIFO in 1941, because of the Treasury Department's opposition then, may take advantage of it from that time on. One estimate, however, is that such authorization would cost the Federal Government two and a half billion dollars in tax refunds. At this writing, the matter is still pending.

In spite of the great savings possible if LIFO were to be made retroactive, stores that had not applied to file on LIFO before the war are loath to switch when prices are near a crest: Taxes under LIFO would be higher than under customary methods, should prices drop. Again, some feel that it is problematical whether there will be any material gains over an entire business cycle. Furthermore, the extra accounting work is a deterrent.

A tool of top management. Thus far, LIFO is a tool of top management in a relatively few department stores, but it is quite possible that it may ultimately be used in semiannual calculations of departmental statements and become the basis for departmental profit and loss upon which buyer's bonuses are figured. But this possibility is somewhat remote.

It would seem that departmental profit and loss statements will continue to be based on the retail method of inventory. LIFO is still an accountant's tool for purpose of corporate statements; it is not a device for measuring the results of selling department operations.

APPENDIX D

Distribution of Indirect Expenses

In Chapter 25 it was pointed out that many joint expenses of a store may be charged to selling departments in accordance with the service provided each. This section gives details of the proration bases suggested by the Controllers' Congress of the National Retail Dry Goods Association for department stores, and is summarized in Chapter 25, pages 477–78.

Window display. Window display may be treated almost as a direct expense by setting up a daily rental price for each window and exterior case to cover not only the value of the space but also the display expense, decorations, salaries, and display fixtures and supplies. At the end of the year, any overdistributed or underdistributed window expense may be prorated on a basis of the direct charge. For example, during a six-month period, one department may be charged $500 for windows, and the total departmental window charges may be $25,000, but the actual display expense may turn out to be $27,500, or 10 per cent more. The window display expense of the department in question will therefore be charged $50 more, increasing the cost to $550.

Since the window display personnel generally handles interior displays as well, a good plan is to set the daily window rates as accurately as possible, so that the difference between total store display costs and window display charges to selling departments will have a balance fairly representative of the cost of interior displays and institutional windows. For example, the total display expense of $27,500 may be taken to include interior as well as window display. If window charges for merchandise display are estimated to total $25,000, the difference of $2,500 would represent the cost of interior and institutional displays. This difference should be included with other items of store overhead, rather than be distributed according to the direct departmental charges for windows.

Pay roll and supplies of sign writers, while not strictly a direct expense, may be treated as such by determining the approximate cost of preparing a sign and by charging each department for the number of signs it uses.

Distribution of rent. Rent is not a direct charge to selling departments. The amount spent for this purpose by the store would continue whether the department continued or not, and no separate payment is made for each departmental space occupied. Selling department rent, then, is a prorated expense but is included in semidirect expense because of the importance of keeping this item distinct from other items of joint expense. If the rent expense of a department is high, the space occupied can often be curtailed and the expense thus controlled. Such prompt adjustment would not be possible in the case of most other expenses that are not direct departmental charges.

Rent or space charge, technically called "Fixed Plant and Equipment Costs," includes the following items for the store as a whole:

Rentals on leased land, buildings, and equipment.
Taxes on leased land, buildings, and equipment.
Interest at 4 per cent on the depreciated value of owned real estate and on leasehold improvements.
Insurance on land, buildings, and equipment.
Depreciation on land, buildings, and equipment and leasehold improvements.
(Fixture expenses should not be included in the above.)

In determining these items, the store building should be considered separately from a warehouse or storage building and from outside delivery and garage buildings. The warehouse space charge is determined in the same manner and charged to the departments occupying space in the warehouse. The rentals, taxes, and so forth on outside delivery and garage buildings are included in delivery expense and are not a part of the space charge to be distributed. Fixed plant and equipment costs on outside buying offices are included as a part of the buying expense, under the subfunction "Domestic and Foreign Buying Offices." Costs of outside power plants are generally included with those of the store building proper.

The total of the fixed plant and equipment costs for the store

TABLE XVIII

DISTRIBUTION OF FIXED PLANT AND EQUIPMENT COSTS

Departments to Be Charged	*Store*	*Warehouse*
Total space charge	$230,293.86	$23,104.66
Distribution on basis of value of space occupied:		
Selling departments (regular retail, cost, and leased)	$173,347.78	$11,341.51
Manufacturing workrooms and subsidiary cost departments	7,298.44	1,441.14
Window display department	4,489.79	
Auditing department	830.12	
Accounts payable department	711.68	
Statistical department	178.00	
Cashier (salary and general office)	1,033.95	127.76
Credit office	711.61	
Mail and telephone order department	232.28	
Merchandise adjustment department	397.07	
Personnel department and superintendency	1,462.19	247.16
Administrative offices	4,304.39	131.48
Bargain-table rent	6,244.03	
Warehouse office		6,830.86
Fixture and equipment office		316.46
Operating, housekeeping, light, heat, and power departments	16,556.78	98.00
Sales promotion office	1,493.22	184.92
Merchandise managers' offices	2,644.17	
Merchandise control office	59.49	
Other buying space	212.43	642.60
Domestic and foreign buying offices	166.66	
Receiving and marking department	897.74	957.75
Wrapping and packing departments	1,648.91	395.70
Miscellaneous general selling space	2,458.82	25.99
Delivery department	1,954.61	363.27

proper should be distributed to the various departments according to the value of space that each occupies. There is difference of opinion as to whether selling departments only should be charged, or nonselling departments also. The logical plan is to charge all departments, both selling and nonselling, regarding window display and aisle table space as nonselling departments along with delivery, receiving, general office, workrooms, and all the rest. This is the plan recommended by the Controllers' Congress of the National Retail Dry Goods Association. An example of this procedure is given in Table XVIII. The total expenses of each nonselling department, including space charge, may in turn be charged to selling departments on some appropriate basis.

Steps in rent distribution. In determining the value of the space occupied by each department, the following procedure is recommended:

1. Determine the relative value of each floor, giving consideration to total area, real-estate worth, and accessibility. These relative values vary with the number of floors involved, the existence of a basement store, the relative areas on different floors, the transportation facilities, and the way these factors are appraised in different localities. An example of a typical distribution is as follows:

Floors	*Per Cent*
Basement	15
Main floor	35
2nd floor	20
3rd "	10
4th "	10
5th "	5
6th "	5
Total	100

2. Determine the relative value of different portions or zones on each floor. In the case of upper floors, it may be satisfactory to regard each square foot of space as of equal value, but on the main floor it is often desirable to set up three zones:

A, B, and *C.* The *A* section is the most valuable and is near the front of the store, near the main entrances, and along the main aisles of traffic. The *B* section is off the main aisles, and the *C* section entirely out of lines of traffic. Each section would be given a different value. In addition, the window display space will have a higher value than any of the three zones. For example, of a store's fixed plant and equipment cost of $100,000, 40 per cent might be charged to the main floor. The window display space may be estimated to be worth 25 per cent of the floor value, or $10,000. The *A* sections may occupy one quarter of the balance of the floor but be valued at one half; the *B* sections may occupy one third and be valued at one third; and the *C* sections may occupy five twelfths, but be valued at one sixth.

The $30,000, then, could be distributed as follows:

	Value Ratios	*Space Charge*	*Area Ratios*	*Relative Sq. Ft. Value*
Section *A*	3	$15,000	3	5
Section *B*	2	10,000	4	2.5
Section *C*	1	5,000	5	1
	6	$30,000	12	2.5

3. In the determination of the area of each floor or zone on each floor do not include space occupied by elevator shafts, escalators, package chutes, stairways, rest rooms, and a reasonable space around store entrance.

4. Divide the space charge by the area of the floor or zone to find the square-foot value. For example, the area of section *A* above may be 3,000 square feet. Dividing this into $15,000 gives a square-foot value of $5.

5. In making the measurements of the individual departments, go to the natural boundaries of the departments, to the walls and to the centers of the aisles between departments, and to the center of aisles in front of elevators. In measuring selling departments' areas, buyers' offices and reserve-stock space devoted wholly to individual departments should be included.

6. Multiply the area of each department by the square-foot value to determine the charge to each department, selling or nonselling. For example, the hosiery department may occupy 600 square feet in the *A* zone on the main floor, with a rate of $5 a square foot; it will be charged $3,000 for space occupied.

If aisle tables occupy 200 square feet of the *A* zone, they will be charged $1,000. Each table will be given a daily rental value, enough to cover this cost. Each selling department will be charged according to the size of the tables it uses in this zone and the number of days it uses them. This charge becomes an addition to the regular departmental space charge.

Under the distribution method outlined, all the fixed plant and equipment cost of the store is charged to departments occupying space, since no value is assigned to space occupied by stairways, rest rooms, and so forth. Charges made for unoccupied space where a part of a floor may be used for neither selling nor nonselling purposes may be considered as a deduction from "other income" rather than as an expense.

In many stores it is not the practice to charge rent to nonselling departments as suggested above. Floor charges and measurements are determined in the same way, but the square-foot rate is applied only to selling department areas. The balance of the fixed plant and equipment costs, representing the rent of all the nonselling departments combined, is distributed to selling departments on an arbitrary basis, usually in proportion to the sales volume of each.

This method has simplicity to recommend it, but there is little reason why a selling department should share a nonselling department's rent in proportion to its sales. The correct basis would be the amount of service it receives from each nonselling department.

A third practice is to distribute rent only to selling floors and thus absorb all rent directly by selling departments. For example, if the fourth floor would normally be charged 10 per cent of the space charge, but if half the floor is devoted to nonselling space, it will be charged about 5 per cent of the total. This would be distributed to selling departments on the floor on a square-foot basis. If a floor is entirely nonselling, no rent would be charged to it, and the percentages for selling floors would be adjusted to total 100 per cent. This plan virtually distributes the rent of nonselling space to selling departments in proportion to the value of the space each selling department occupies directly. Such a basis can be justified upon a basis of expediency only.

Light, heat, and power. As in the case of rent, light, heat, and power should be distributed to all departments occupying space, whether selling or nonselling. The accepted basis for distributing this expense is the relative area occupied by each department. The area is determined the same way as that used for rent distribution, but each square foot of area is regarded as of equal value, no weighting being given to different floors or zones. For example, the total area of all floors in a store may be 500,000 square feet, and the total light, heat, and power expense $50,000. The charge per square foot, then, is 10 cents. If a selling (or nonselling) department occupies 1,000 square feet, it is charged $100. The charges thus made to manufacturing departments and alteration (subsidiary cost) departments are subtracted from the expense classification by means of a contra-credit and enter into cost of sales along with all other costs of these workrooms. In this connection, manufacturing-department space should include the kitchen of the customers' restaurant (which is a regular selling department, operating on a cost basis) and fur-storage space. Space in the dining room, however, or space in the fur-storage department given to selling the service to customers should be regarded as regular selling-department space, and the charges to them should not be deducted from expense. This principle applies also to fixed plant and equipment costs.

Some stores distribute light, heat, and power on a basis of cubic feet of space rather than square feet. This is a refinement that most stores have not adopted, although it is true that the expense of heating and lighting depends rather on cubic space than on floor area.

As in the case of rent, many stores charge the entire expense of light, heat and power only to selling departments by measuring only the selling area and dividing that into the expense. This plan distributes to selling departments the expense of heating and lighting nonselling departments in proportion to the area occupied by each of the former, which is not an equitable basis.

Delivery expense. Expenses classified under the delivery subfunction include ten natural divisions of expense, less charges to cost of merchandise sold, to assets, or to other expense accounts, which may be made by means of the contra-credit device. For purposes of expense distribution, however, this expense should be augmented by the following charges:

1. Space charge for the value of the space used by the delivery department in the store and in the warehouse.
2. Light, heat, and power.
3. A share of the store's fixture and equipment charges (rentals, taxes, interest, insurance, and depreciation) proportionate to the appraised fixture valuation.
4. A share of personnel expenses of the store in the proportion that the average weekly number of employees in the delivery department bears to the average number in the store.
5. A share of the store expense for operating, housekeeping, and heat, light, and power in proportion to the area occupied.
6. A share of warehouse expense, other than rent, in proportion to space occupied by delivery in relation to the total.

As in the case of fixed plant and equipment costs, it is important to determine the share of this delivery expense attributable to each selling department. A high delivery cost should reflect the delivery of a large proportion of sales transactions or of goods having a low unit value. Delivery represents a joint cost, except where an outside delivering company is hired on a package basis; the costs are not directly incurred by individual selling departments.

The method of distribution recommended by the Controllers' Congress is the relative number of packages from each department delivered and returned, weighted according to a standard schedule. A weight of 1 is taken as the basis and is applied to such departments as hosiery, men's underwear, woolens, women's shoes, and domestics. Items that cost a little more to deliver, because of bulk, weight, or effort in handling, are weighted 1¼, such as negligees and men's hats. Others are weighted 1½, 2, 2¼, 2½, 4, 5, and 50 in the case of pianos. The steps in distribution are as follows:

1. A record is kept of the number of packages of each department delivered plus those returned.
2. The number for the period, monthly, semiannually, or yearly, is multiplied by the scheduled weight to determine the number of points handled for each department.
3. The aggregate weighting for all departments combined is determined.
4. The total delivery expense is divided by the total weighted points, to determine the expense per point.
5. The number of points attributed to each department is multiplied by the expense per point to determine the delivery expense to charge to each selling department.

For example, during six months, 2,000 packages of sporting goods may be delivered and returned. The weight for sporting goods is 1½; 2,000 × 1½ = 3,000 points. The total point value of all departments combined may be 350,000, and the total delivery expense $35,000. The cost per point, then, is 10 cents, and the charge to the sporting goods department $300.

Some store controllers are of the opinion that there is a negligible difference between the cost of delivering a pair of shoes and a man's suit. They suggest that the point or weighting system be eliminated and each package be treated as a unit.

Bulk deliveries, such as furniture, are generally handled by a separate group of trucks, and a separate cost for bulk delivery may be established. This may be divided by the number of bulk deliveries handled, to determine the cost for each unit.

Personnel supervision. The expenses of operating the personnel department and the various floor management offices may be prorated on a basis of average weekly number of employees on a clerk-day basis. This means that the aggregate of the number of days worked by each employee each week in each department is divided by 6,[1] the number of working days per week, to determine the weekly number of employees. A part-time day is to be counted as ½. For example, in a hosiery department:

	Number of Days Worked	*Number of Days Weighted*
Clerk #1	6	6
" 2	6	6
" 3	5	5
" 4	5	5
" 5 (part-time)	6	3
" 6 " "	6	3
" 7 " "	2	1
" 8 " "	2	1
		30 ÷ 6 = 5 full-time employees

The number of full-time employees each week is determined in this fashion, and an average obtained for a six-month period (26 weeks). For example, in the hosiery department, the average may be 6. The averages in all departments, both selling and nonselling, are then totaled, and this total is divided into the expense to be prorated on this basis (training, welfare, floor superintendence, and so forth) to determine the expense per employee. For example, the average number of employees in a store for the six-month period may be 650, and the expense to be prorated, $130,000. The expense per employee, then, is $200. If the hosiery department averaged 6 employees, it is charged $1,200 of this expense.

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[1] In some stores, the standard work week is 5 days.

Since nonselling as well as selling departments may be charged for these personnel expenses, it is necessary to add the nonselling charge to other expenses of nonselling departments before prorating them to selling departments. For example, the marking department's direct expense may be $21,000, but this department may be charged $2,000 of the personnel expense on a basis of the number of employees in the marking room. The department may also be charged $500 for depreciation on equipment, and $1,000 for rent. The total expense of the marking department to be prorated to selling departments is $24,500.

Fixture and equipment depreciation and repair. These expenses may be prorated on a basis of fixture evaluation.

Fixture valuation means that an appraisal is made of the value of fixtures in each department, both selling and nonselling, and the expense of fixtures is distributed in this proportion. This expense includes rentals, taxes, interest, insurance, and depreciation on fixtures and equipment.

For example, the total value of fixtures in a store may be $500,000, and the total fixture and equipment expense $50,000, or 10 per cent. Each department, then, will be charged 10 per cent of the value of its fixtures.

Salaries of merchandise managers. This expense should be prorated on a basis of group sales.

Group sales means that the expense involved is to be distributed in the proportion that department sales bear to the group sales. For example, sales of the ready-to-wear departments in a store may be $1,000,000, and the salaries and expense of the divisional merchandise manager of ready-to-wear and his assistant may be $15,000. The expense per dollar of sales is $.015. If the dress department does a volume of $300,000, it would be charged $4,500 of this expense.

Merchandise control and marking. The first of these expenses may be prorated on a basis of clerk-hours, and the second on marker hours.

Clerk-hours and marker-hours signify that a record is kept on a weekly time sheet of the number of hours each clerk or marker devotes to each selling department. The total hours are divided into the cost to determine the cost per hour, and the number of hours devoted to each department is multiplied by this rate.

Receiving expense. The basis suggested here is the weighted number of invoices and returns.

This means that the expenses of receiving are divided so as to segregate the cost of receiving bulk merchandise, such as furniture. When bulk goods are received in a separate warehouse, this is easily done. When all are received in the store, a weighting should be placed on invoices for those departments whose receiving costs are higher than average. For example, out of 100,000 bills received, 10,000 may represent bulk merchandise that costs about twice as much to receive as other merchandise. These bills may be given a weight of 2 each, giving a new total of 110,000. If the total receiving costs are $4,400, the rate is .04 per bill. The bulk departments will be charged 20,000 times this, or $800.

Wrapping and packing expense. Per-package cost is the suggested method of distribution here. Wrapping and packing costs, including supplies, are distributed on the basis of an average package cost determined for each department. Such transactions should be kept distinct from take transactions, the former having a higher package cost. For purposes of proration, the head of the packing department should estimate the cost of wrapping both take transactions and send transactions. The difference at the end of the period between charges made to departments and the total wrapping and packing costs should be distributed in proportion to the charges made on a basis of estimated cost.

For example, for the hosiery department the cost of wrapping take transactions may be estimated at 2 cents, and the cost of send transactions 4 cents. If during the period 4,000 transactions are taken by customers and 1,000 delivered, the hosiery department is charged $80 for "takes" and $40 for "sends," a total of $120. The total of such charges to all departments combined may be $3,500, but the actual cost for the period may be $3,850, or 10 per cent more. The charge to the hosiery department would therefore be increased 10 per cent to $132. If the actual cost were less than the estimated cost, the department would be credited.

In determining the number of packages for each department, unit-packed merchandise should not be included. This represents goods packed by the manufacturer in units of resale, so that no further packing or wrapping is needed in the store. Since the packing cost is absorbed in the price paid the manufacturer, no further packing charge should be made the selling departments when this type of merchandise is delivered.

The wrapping and packing cost discussed above includes not only pay roll of packers, supplies, and unclassified charges but also space charge (a portion of fixed plant and equipment costs); a charge for operating; housekeeping; light, heat, and power; a charge for fixtures and equipment; and a charge for the expense of personnel administration.

Double and triple proration. In the discussion of the distribution of semidirect expenses, mention has been frequently made of the necessity of charging certain expenses to nonselling departments and then charging the total expenses of these nonselling departments to selling departments. The list of the expenses that may be thus doubly distributed is as follows:

1. Fixed plant and equipment costs. A portion is charged to every nonselling department occupying space to determine the total expenses of those departments to distribute to selling departments.
2. Warehouse space charge. A portion is charged to every nonselling department occupying space in the warehouse.
3. Rent, taxes, interest, insurance, and depreciation on fixtures and equipment. A portion is charged to every nonselling department that has fixtures and equipment of value.
4. Training, welfare, and other personnel expense, includ-

ing certain items of superintending. A portion is charged to every nonselling department in ratio to the number of employees.

5. Operating, housekeeping, light, heat, and power expenses. A portion is charged to every nonselling department occupying space.

6. Warehouse expenses, not including space charge. A portion is charged to every nonselling department that receives service from the warehouse.

At times, triple proration takes place. An example of rent and superintending expenses may be given. The total expense classified under the superintendency subfunction may amount to $88,068. Of this, $5,855 may represent mail and telephone order expense, and $15,153 the expenses of the adjustment office. These groups of expenses are to be prorated on separate bases, leaving $67,060 to be prorated according to number of employees. But this is not the entire sum to be prorated, because the superintendency departments should be charged for rent and for fixtures and equipment. The rent charge allotted, including both store and warehouse, may be $1,709, and the fixture and equipment charge $984, giving a total of $69,753.

This sum must now be prorated to all departments having employees, not simply to selling departments. For example, $5,794 of the $69,753 may be charged to delivery before delivery expense is charged to selling departments. Thus a rent and fixture charge is first added to superintendency; second, a part of superintendency is charged to delivery; and finally, delivery is charged to selling departments.

Methods of distributing other joint expenses. In answer to the question of how to distribute expense items other than those already discussed, if such proration is deemed worth while, there is difference of opinion. The most common method is to distribute joint expenses on a basis of sales. That is, the sum total of the indirect expenses not otherwise distributed is divided by the total sales of the store, to determine indirect expense per dollar of sales. The sales of each department are then multiplied by this rate to determine the amount of indirect expense each should bear.

Where indirect expenses are prorated monthly or semi-annually, rather than only at the end of the year, a refinement of the sales basis is desirable; this is called the *accumulated sales basis.* Instead of the expenses of each month or six months being distributed in proportion to sales of that period, the expenses to date from the beginning of the year are distributed in proportion to the cumulative sales. Any previous proration is subtracted to find the new charge. The procedure is best explained by means of an example, in which indirect expenses are $35,000 during each of two six-month periods.

PRORATION ON ACCUMULATED SALES BASIS

Dept.	*February 1 to July 31*		*August 1 to January 31 Next*	*February 1 to January 31 Next*		*July 31 to January 31 Next*
	Sales	Indirect Expenses	Sales	Accumulated Sales	Accumulated Indirect Expense	Indirect Expense (Less expense charged July 31)
Dept. 1	$100,000 x .10[a]	$10,000	$ 90,000	$190,000 x .09⅓[b]	$17,733	$ 7,733
Dept. 2	200,000 x .10	20,000	210,000	410,000 x .09⅓	38,267	18,267
Dept. 3	50,000 x .10	5,000	100,000	150,000 x .09⅓	14,000	9,000
	$350,000	$35,000	$400,000	$750,000	$70,000	$35,000

[a] February 1 to July 31: $35,000 ÷ $350,000 = $0.10, the indirect expense per dollar of sales for six months.

[b] February 1 to January 31: $70,000 ÷ $750,000 = $0.09⅓, the indirect expense per dollar of sales for the year.

If the noncumulative method had been used for the second half of the year, the charges would have been determined as below:

NONCUMULATIVE METHOD OF PRORATION

Dept.	*August 1 to January 31 Next*		*February 1 to July 31*	*Total Indirect*
	Sales	Indirect Expense	Indirect Expense	Expense for Year
Dept. 1	\$ 90,000 x .0875[c]	\$ 7,875	\$10,000	\$17,875
Dept. 2	210,000 x .0875	18,375	20,000	38,375
Dept. 3	100,000 x .0875	8,750	5,000	13,750
	\$400,000	\$35,000	\$35,000	\$70,000

[c] \$35,000 ÷ \$400,000 = \$0.0875.

It will be noted that under the noncumulative plan the total expenses charged each department for the year differ considerably from the charges under the cumulative plan. The latter is to be recommended because it gives the same results at the end of the year, regardless of whether expenses are prorated monthly, semiannually, or annually.

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